

iCon™

A high performance Rack & Panel connector

Product Catalog



TECHNICOME.COM

www.technicome.com

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VPC Virginia Panel Corporation

vpc.com — — — — —

Mass InterConnect Solutions

...creating order out of wiring chaos

iCon™ the new standard for connectors

Virginia Panel Corporation (VPC) continues to provide the highest quality and most innovative InterConnect Solutions on the market. As a global leader in the Test and Measurement industry, our goal is to meet the market's current and future needs. VPC is ISO 9001:2000 certified, assuring uncompromising quality with a commitment to continuous improvement. We work closely with our Test and Measurement Partners to develop and design products that support industry standards.

iCon has been developed to meet the critical and changing demands of the Test and Measurement industry. iCon integrates our reliable contacts and modules into a compact format that can be used with both our standard Mass InterConnect Solutions and stand-alone applications.

Many of iCon's features were incorporated from an in-depth study analyzing industry standards used in today's market. By incorporating the best attributes from several designs, we were able to create a connector that provides reliable maintenance-free connections exceeding 10,000 cycles. The unique iCon drive system offers an effortless method of engaging and disengaging a multitude of contacts with a ½ turn handle. The iCon provides ease of assembly and contact access during connector build and troubleshooting in Test and Measurement applications.

VPC continues to develop and enhance iCon, offering over 12 new modules and 2 new configurations. Listening to and working with our customers has enabled us to continue to improve our product offering with various applications, including a 75 Ohm HD coaxial connector solution, a large cable clamp, which holds bundles up to 1.90", and PCB mountable features.

VPC is continually presented with new applications that enable our engineers to develop new solutions to challenging requirements. iCon has been integrated in various applications from the aerospace to the entertainment to the scientific industries.

VPC looks forward to continued success with our iCon product line.



J.P. Stowers
President



ISO 9001:2000
FM 91006

"Virginia Panel Corporation, through its people, is committed to continuous improvement, uncompromising quality, and exceptional value."

Table of contents

| | |
|--------------------------------|----|
| Applications | 6 |
| iCon | 9 |
| iConEMI | 15 |
| iCon Modules | 19 |
| Contacts, Patchcords and Tools | 31 |
| QuadraPaddle Signal..... | 31 |
| TriPaddle Signal..... | 34 |
| Mini Power..... | 37 |
| Mini Coaxial..... | 38 |
| Mini Pneumatic..... | 40 |
| Micro Power..... | 42 |
| Micro Coaxial..... | 43 |
| 75 Ohm HD Coaxial..... | 45 |
| 20 GHz Coaxial..... | 46 |
| Twinaxial..... | 47 |
| Thermocouple..... | 48 |
| Accessories | 49 |
| iCon960 | 51 |
| Technical Tips | 57 |
| Cross Reference | 60 |
| Index | 64 |

Versatility & High Performance — iCon, iConEMI and iCon960 deliver.



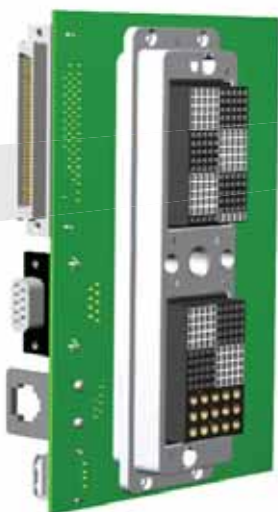
Engineered for Test & Measurement

- Rugged engagement mechanism designed for 10,000 cycles
- Mate up to 320 signal contacts using QuadraPaddle technology
- Small width and inboard handle increases side-to-side stackability

Convenient Rack & Panel Connector

- Slide-off cover allows access to probe points while engaged
- Removable U-shaped cable clamp makes it easy to reconfigure wired modules
- Fail-safe features include offset guide pins, recessed ITA (interchangeable test adapter) contacts and keying pins

iCon™



Innovative & Practical Module Features

- PCB mountable receiver
- Standard Modules allow a mix of I/O
- Captive hardware in modules guarantee screws will not get lost
- Rear mount modules allow for easy installation of pre-wired cable assemblies
- Modules available in coax, power and signal—other module types available upon request

EMI Protection

Maximizes Shielding Effectiveness

- “Mate first, break last” feature completes the earth ground circuit
- Earth ground terminal prevents shock and injury
- EMI Shielding minimizes unwanted noise and maintains signal integrity



iCon₉₆₀

960 Signal Contacts

Satisfies High I/O Need

- Provides 960 signal contacts for both PCB and discrete wiring using QuadraPaddle technology
- Two 480 signal modules included—other module types available upon request
- Half-turn quick cam allows easy, precision engagement of receiver and ITA



Versatility

Creates Solutions for Many Industries

- Ideal for scientific data acquisition applications
- Simplifies wire connections for the entertainment industry
- Meets specialized testing requirements in the automotive industry
- Proven durability in environmental chambers



Applications ▼

Virginia Panel Corporation continues to develop new products that are meeting the various requirements demanded by the Test and Measurement industry. VPC is a leader in developing a total InterConnect solution in a modular and scalable format. As the world leader in test and measurement InterConnects, VPC seeks to find solutions that provide the most economical method of organizing your connections. VPC's newest solution, iCon, provides rugged engagement in a compact device. iCon allows a range of I/O options, including signal, power, and coax. Its half-turn quick cam enables easy engagement and stackability. The U-shaped cable clamp allows modules to be pre-wired before assembly. The iCon is a global solution; it is being integrated into test systems throughout the world. It provides cable management; multiple connections can be replaced with a single iCon. The iCon provides peace of mind through versatility, convenience, and durability. Applications range from the Aerospace industry testing in-flight entertainment systems to the Semi-Conductor industry testing lasers.

VPC welcomes all Application articles and thanks those that have and will allow VPC to highlight today's test technology. Visit vpc.com for a complete listing.

In-Flight Entertainment Systems • iCon and G6 Solution

A world leader in commercial airline in-flight entertainment systems, has created a test system for a major aviation manufacturer. The iCon is currently being used to test in-flight entertainment systems. The unit under test (UUT) is attached to a fixture wired from the iCon receiver to multiple I/O, Ethernet, and power connectors. The test rack containing the UUT fixture is located in a thermal cycle test chamber. The rack can hold up to eight UUTs. The cable assembly from the test equipment contains four iCon interchangeable test adapter (ITA) connectors, one G6 with a power cord, and multiple Ethernet cables. This robust configuration provides the customer with repeatability and reliability during the harsh test environment along with 10,000 guaranteed mating cycles.



Applications ▼

Robins Air Force Base • iCon and L-Shaped Enclosure Solution

Test engineers at Robins Air Force Base have used Virginia Panel Corporation's iCon in their Versatile Depot Automatic Test Station—Digital Analog version 2 (VDATS DA-2). The application in which the iCon connector is used is to automatically test avionics circuit cards for the F15 fighter APG-63 system.

One of the greatest challenges of the design for the interface test adaptor (ITA) was to find the ideal connector for the unit under test. The ITA requires 308 electrical connections. The plan called for the use of 50 Ohm coaxial wire utilizing wire wrap, but the test engineers also wanted the option to use crimp technology if needed. Ease and speed of installation and removal was a high priority, as technicians would need to engage and disengage the connecting assembly frequently.

The test engineers chose Virginia Panel's iCon connector due to its extreme versatility; the connector offers a wide range of pin configuration and termination types. iCon's low insertion force and simple secure locking mechanism makes it one of the simplest connectors for technicians to install and remove. The project team also found VPC's support beneficial. During manufacturing, the project schedule began to slip. The project group turned to VPC to pre-wire their iCon, which enabled them to get back on schedule.

<http://www.robins.af.mil/>



Applications ▼

Military Test System • iCon and Wire+ Solution

VPC reviewed an application to retrofit existing fixtures for a two tier 50 module-based military test system. The existing system had 15 circular connectors with cabling connecting the fixture to the LRU (signal and power pins).

VPC's engineers developed a fully wired fixture with three iCon connectors to replace all but two of the circular connectors, reducing the disconnect/ reconnect time to one half-turn for each iCon. The costs were reduced by 50 percent over the established circular connector solution. VPC provided everything from the ITA frame to the circular connectors on the LRUs.



Environmental Chamber Testing • iCon with Extended ITA Handle

A company developing environmental chamber testing fixtures for a cell phone manufacturer worked with VPC to develop a revolutionary environmental test fixture. Using the iCon's innovative engagement mechanism, the developers built a fixture that is 500mm (18") long. It can test up to five cell phones simultaneously and can withstand temperatures from -40 degrees C to 70 degrees C, as well as humidity.



Versatile Rack & Panel Connector • iCon ▼

iCon is a fail-safe rack and panel connector specifically designed for the Test & Measurement industry. The unique engagement mechanism contains built-in lubrication and spring-loaded locking tabs that guarantee a reliable connection test after test. The iCon receiver is designed to be PCB compatible.

Innovative Engagement Mechanism



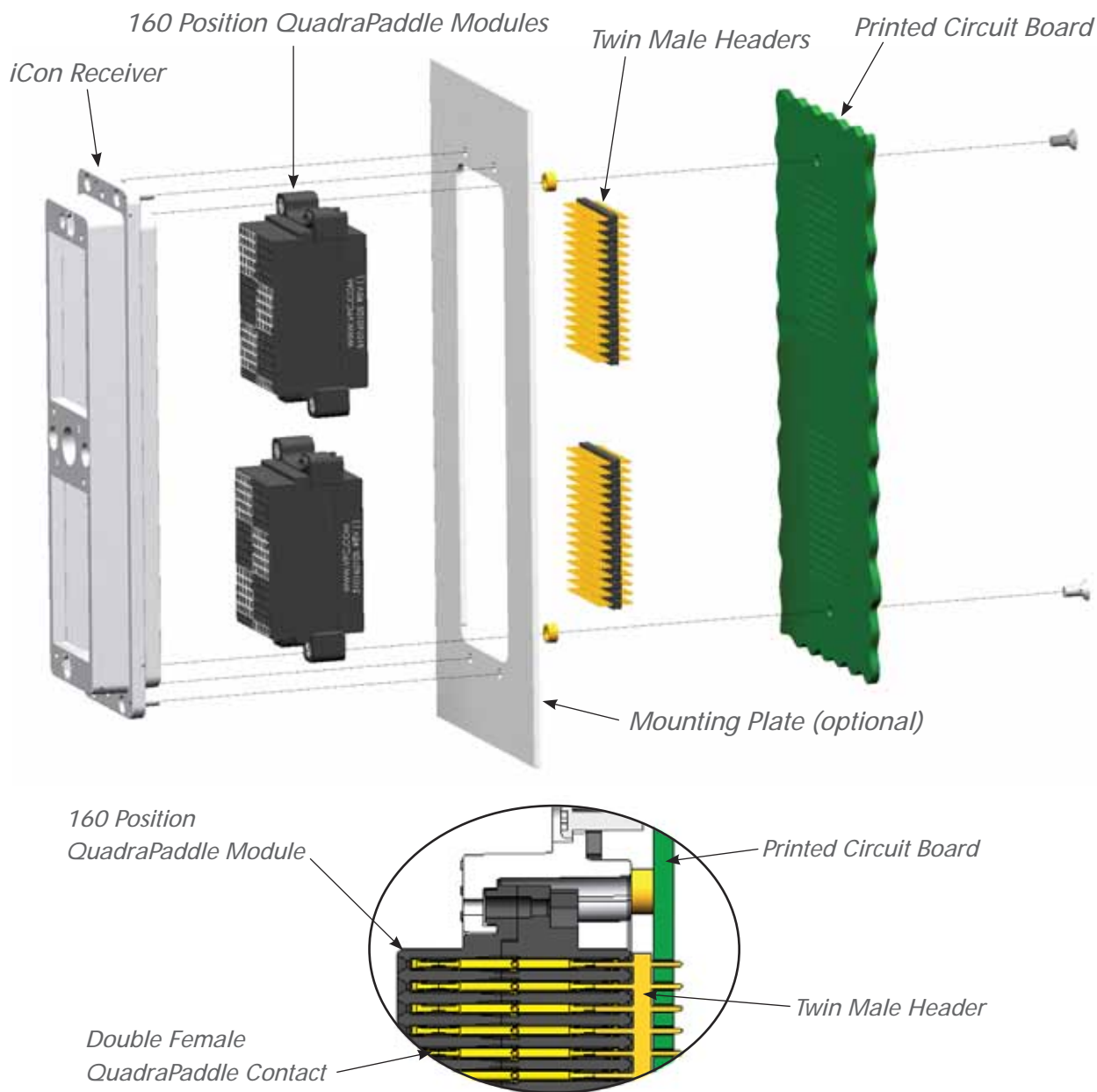
iCon[™]

For more information, visit vpc.com/iCon

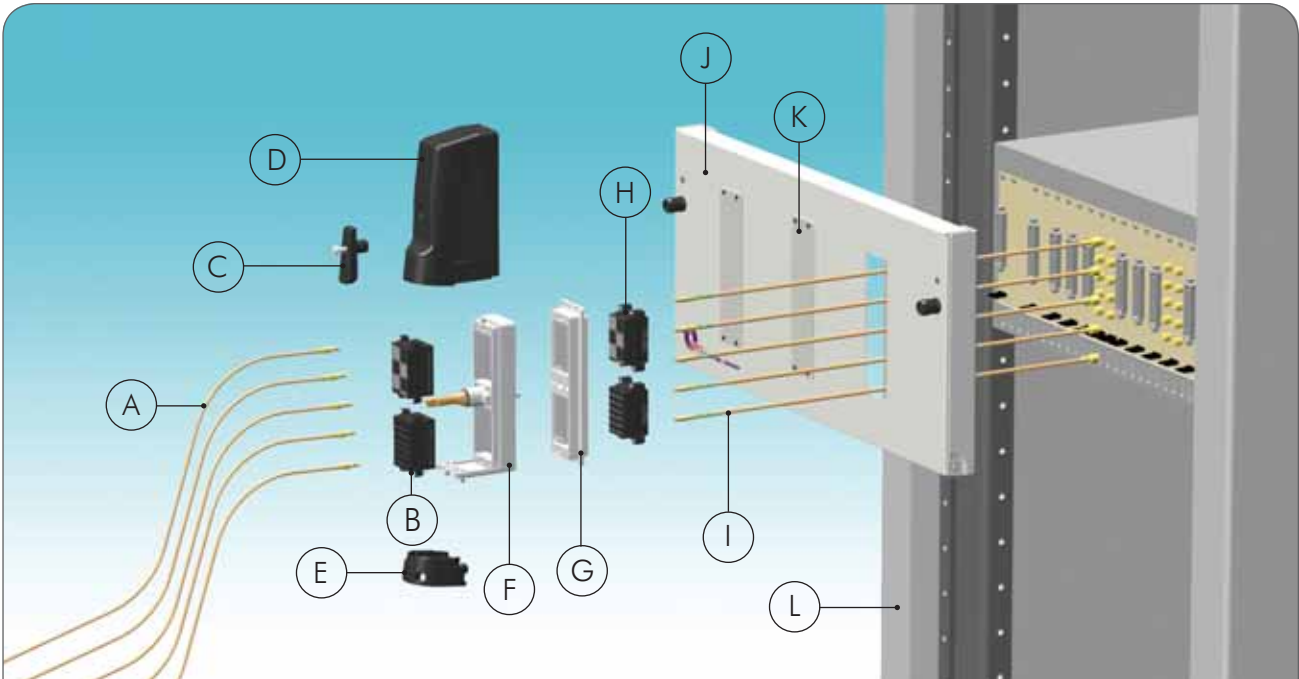
PCB-Mountable iCon Receiver ▼

The iCon Receiver offers wire to board connections in multiple configurations. Using twin female QuadraPaddle contacts, the iCon Receiver can be connected directly to male headers on a PCB. VPC's adapter pins can also be used to connect directly to female headers or ribbon cable connectors.

Printed Circuit Board Testing Options



For more information and recommended PCB cut-outs; refer to pages 58-59 and visit www.vpc.com/PCBlayouts.



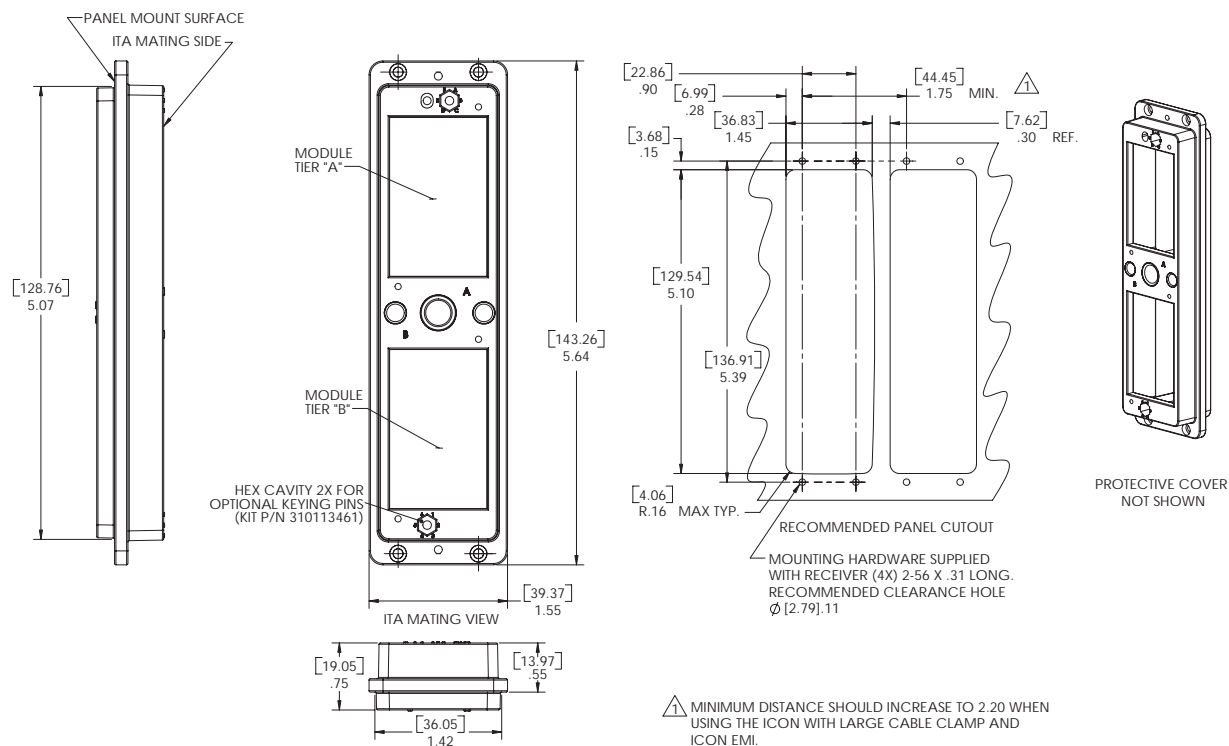
- | | | |
|----------------------|-------------------------|-----------------------------------|
| A. ITA Patchcords | E. U-shaped Clamp | I. Receiver Patchcords |
| B. iCon ITA Module | F. iCon ITA Frame | J. Vertical Hinged Mounting Frame |
| C. Engagement Handle | G. iCon Receiver | K. iCon Cover Plate |
| D. Removable Cover | H. iCon Receiver Module | L. Rack With Instruments |

| Part # | Description |
|--------------------------------------------------------------------------------|-----------------------------------------------------------|
| RECEIVER | |
| 310 123 101 | Receiver, iCon (G) Protective Cover Included |
| ITA | |
| 410 123 101 | ITA, iCon (C) (D) (E) (F) Protective Cover Included |
| 410 123 106 | ITA, iCon, with Large Cable Clamp |
| ACCESSORIES | |
| 310 113 460 | Replacement Protective Cover, iCon, Receiver |
| 410 112 750 | Replacement Protective Cover, iCon, ITA |
| 310 113 456 | Strain Relief, iCon, Receiver |
| 310 113 461 | Keying Pin Kit, iCon, Receiver and ITA |
| 310 113 463 | Vertical Hinged Mounting Frame, iCon, 5U, 3 Positions (J) |
| 310 113 467 | Cover Plate, iCon (K) |
| 310 113 491 | Fixed Mounting Frame, iCon, 1U, 2 Positions |
| 310 113 492 | Fixed Mounting Frame, iCon, 4U, 10 Positions |
| MODULES | |
| For ITA and Receiver Modules (includes (B) (H)) refer to pages 19 through 30. | |

For more information, visit vpc.com/iCon



iCon Receiver ▼



► Receiver, iCon • Part # 310 123 101

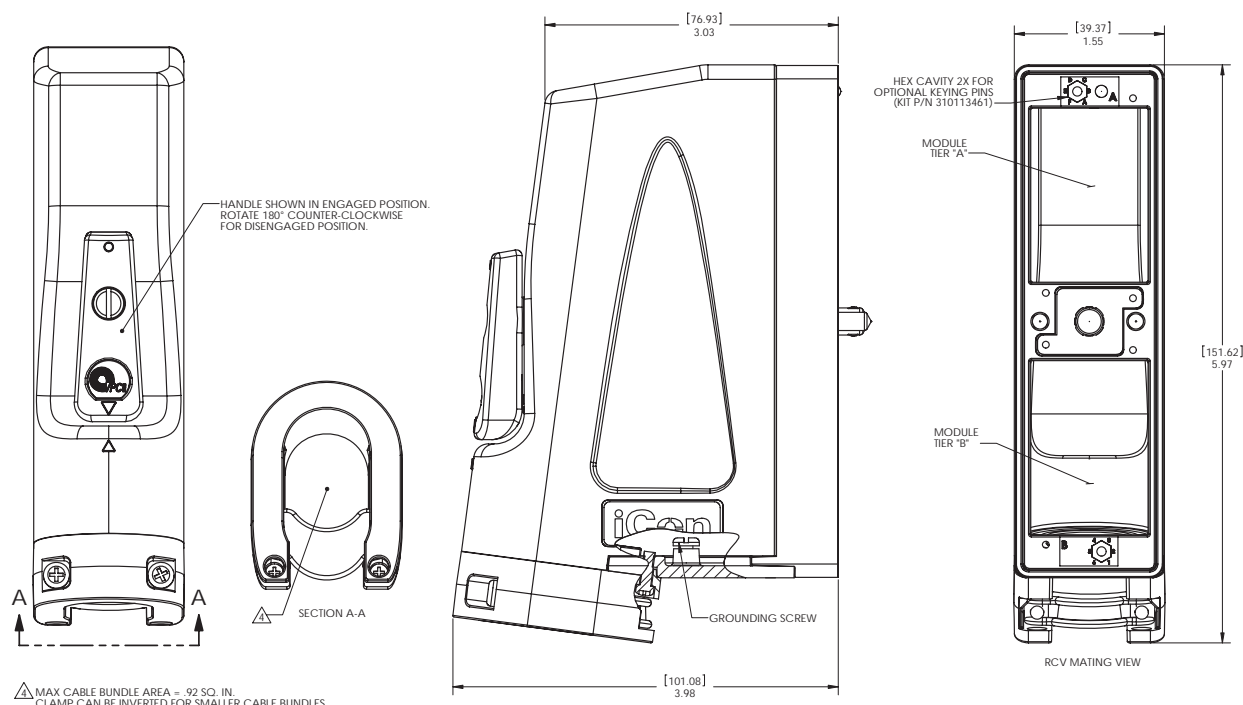
Receiver Specifications

| | |
|----------------------------|-----------------------------------------------|
| Weight | 0.20 lbs [.09 Kg] without protective cover |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware Material | Stainless Steel Alloy |
| Protective Cover Material | Black Thermoplastic |
| Available Module Positions | 2 |
| Cycle Life | 10,000 Cycles |
| Temperature | -55° C to 100° C |



iCon accepts two modules and allows a variety of signal, power and coaxial connections. A protective cover is included with the receiver, and other accessories, such as keying pin kits and strain relief, are available.

iCon ITA



iCon

► ITA, iCon • Part # 410 123 101



ITA Specifications

| | |
|--------------------------------------------------|-----------------------------------------------|
| Weight | 0.65 lbs [.29 Kg] without protective cover |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware | Stainless Steel |
| Drive Unit | Bronze and Stainless Steel |
| Plastic Components and Protective Cover Material | Black Thermoplastic |
| Cable Clamp Material | Powder Coated Aluminum |
| Available Module Positions | 2 |
| Cycle Life | 10,000 Cycles |
| Temperature | -55° C to 100° C |

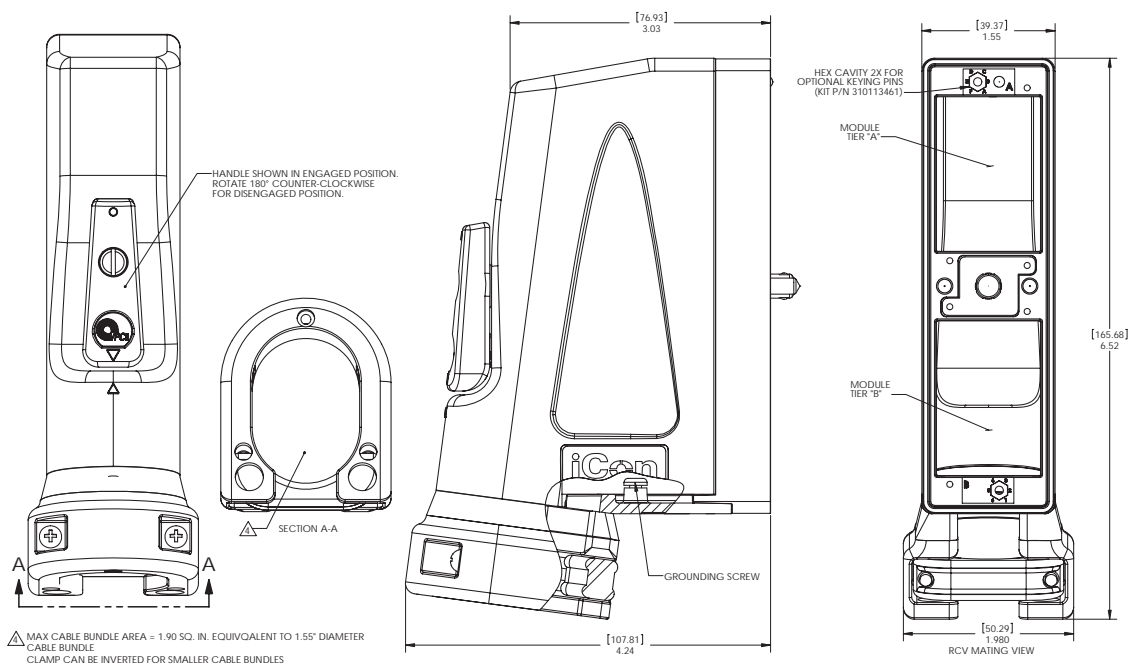


TECH TIP

The U-shaped Cable clamp is adjustable to accommodate the amount of wires in your cable bundle. For the equation please see our [Tech Tip](#) on page 57.

The iCon ITA's small width and inboard handle increase the side to side stackability. The U-Shaped Cable Clamp allows modules to be pre-wired before assembly and can hold cable bundles up to 1.21" diameter. The slide off cover allows easy access to wiring for maintenance and probing. Protective cover included.

iCon ITA with Large Cable Clamp ▼



► ITA, iCon with large cable clamp • Part # 410 123 106



ITA Specifications

| | |
|--------------------------------------------------|-----------------------------------------------|
| Weight | 0.65 lbs [.29 Kg] without protective cover |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware | Stainless Steel |
| Drive Unit | Bronze and Stainless Steel |
| Plastic Components and Protective Cover Material | Black Thermoplastic |
| Cable Clamp Material | Powder Coated Aluminum |
| Available Module Positions | 2 |
| Cycle Life | 10,000 Cycles |
| Temperature | -55° C to 100° C |



TECH TIP

The U-shaped Cable clamp is adjustable to accommodate the amount of wires in your cable bundle. For the equation please see our [Tech Tip](#) on page 57.

This iCon has a large cable clamp that will accommodate cable bundles up to 1.55" diameter. The slide-off cover allows easy access to wiring for maintenance and probing. Protective cover included.

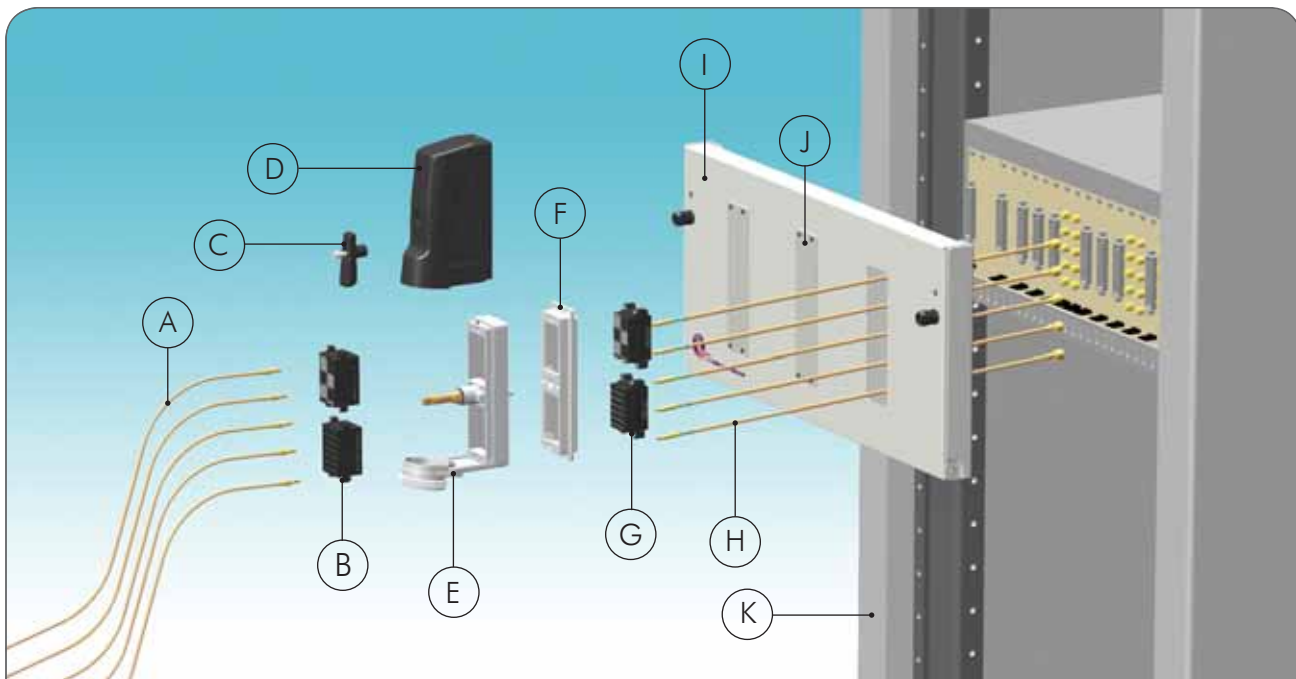
iConEMI ▼

The iConEMI has many of the standard features of the iCon, in addition to Electro-Magnetic Interference protection. The shielding effect provided by the stainless steel fibers in the plastic cover and threaded metal coupling adapter minimizes unwanted noise and maintains signal integrity. The “Mate First, Break Last” feature connects the earth ground circuit, while the earth ground terminal provided on the ITA and Receiver prevents user shock and injury. For reduced wiring cost and ease of integration, the iCon receiver is capable of being mounted directly to PCBs.

Electro-Magnetic Interference Shielding



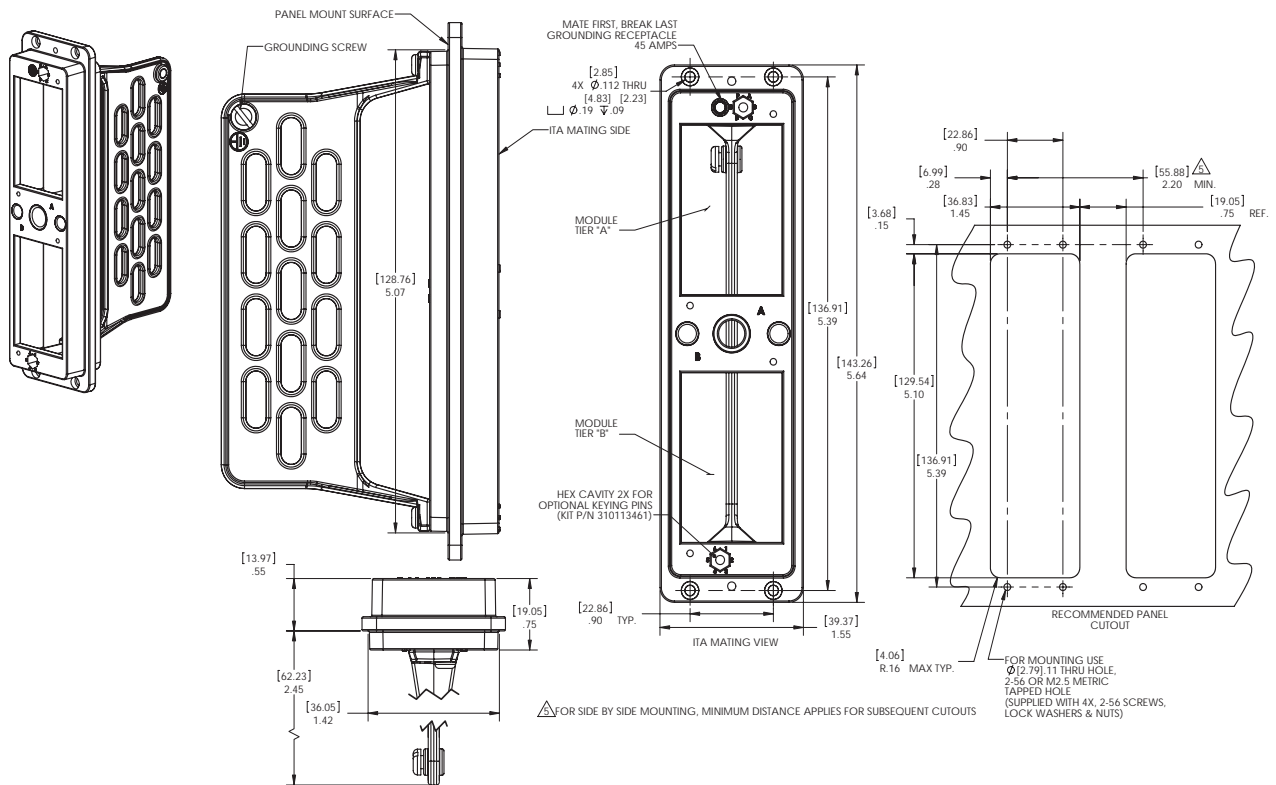
For more information about coupling adapters, backshells and conduits, visit vpc.com/backshell



| | | |
|---------------------------------|-------------------------|-----------------------------------|
| A. ITA Patchcords | E. iConEMI ITA Frame | I. Vertical Hinged Mounting Frame |
| B. iCon ITA Module | F. iConEMI Receiver | J. iCon Cover Plate |
| C. Engagement Handle | G. iCon Receiver Module | K. Rack With Instruments |
| D. EMI Shielded Removable Cover | H. Receiver Patchcords | |

| Part # | Description |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| RECEIVER | |
| 310 123 102 | Receiver, iCon, EMI Shielded (F) Protective Cover Included |
| ITA | |
| 410 123 102 | ITA, iCon, EMI Shielded (C) (D) (E) Protective Cover Included |
| ACCESSORIES | |
| 310 113 460 | Replacement Protective Cover, iCon, Receiver |
| 410 112 750 | Replacement Protective Cover, iCon, ITA |
| 310 113 456 | Strain Relief, iCon, Receiver |
| 310 113 461 | Keying Pin Kit, iCon, Receiver and ITA |
| 310 113 463 | Vertical Hinged Mounting Frame, iCon, 5U, 3 Positions (I) |
| 310 113 467 | Cover Plate, iCon (J) |
| 310 113 491 | Fixed Mounting Frame, iCon, 1U, 2 Positions |
| MODULES | |
| For ITA and Receiver Modules (includes (B) (G)) refer to pages 19 through 30. | |
| <p><i>For more information, visit vpc.com/iCon</i></p> <div> <p><small>To instantly design patchcords online, use our</small></p> <p>PATCHCORD designer</p> <p>vpc.com/patchcorddesigner</p> </div> | |

iConEMI Receiver



Receiver, iCon, EMI Shielded • Part # 310 123 102

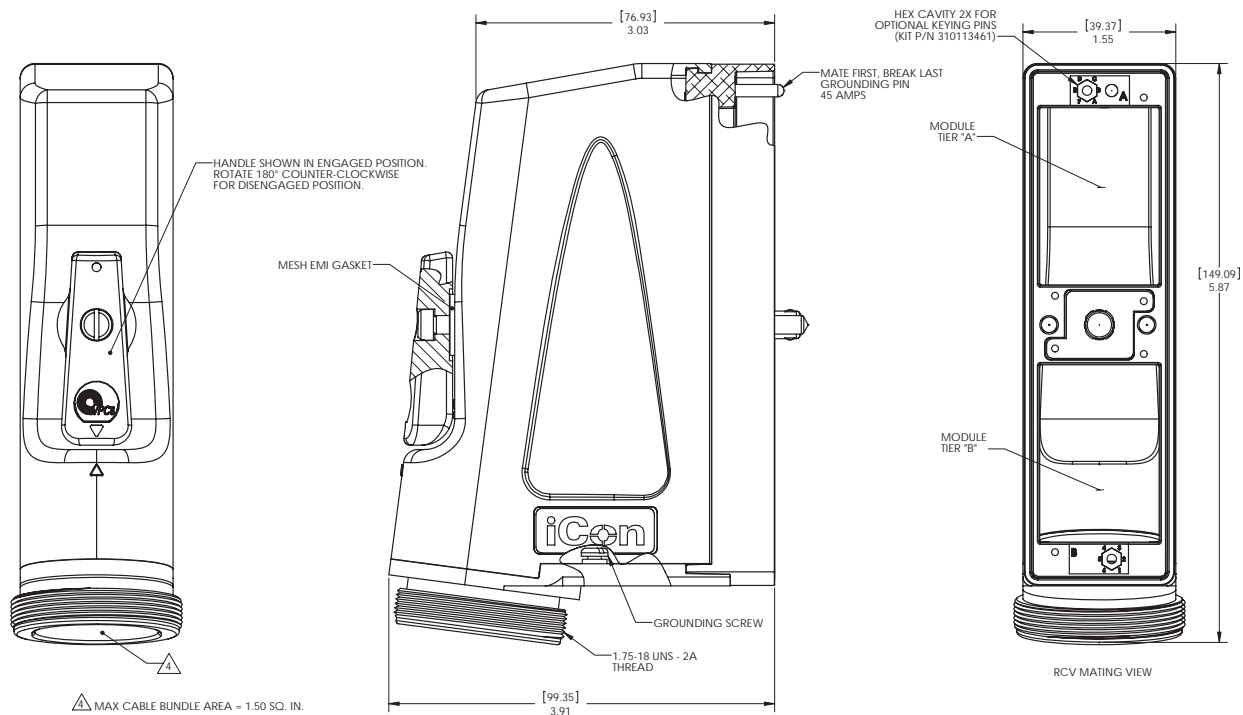
Receiver Specifications

| | |
|----------------------------|-----------------------------------------------|
| Weight | 0.20 lbs [.09 Kg] without protective cover |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware Material | Stainless Steel Alloy |
| Protective Cover Material | Black Thermoplastic |
| Available Module Positions | 2 |
| Cycle Life | 10,000 Cycles |
| Temperature | -55° C to 100° C |



The iConEMI has many of the standard features of the iCon, in addition to Electro-Magnetic Interference protection. An earth ground terminal is included on the iConEMI Receiver. The "Mate First, Break Last" feature connects the earth ground circuit. The earth ground terminal on the strain relief prevents user shock and injury.

iConEMI ITA



► ITA, iCon, EMI Shielded • Part # 410 123 102



ITA Specifications

| | |
|--------------------------------------------------|-----------------------------------------------|
| Weight | 0.65 lbs [.29 Kg] without protective cover |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware | Stainless Steel |
| Drive Unit | Bronze and Stainless Steel |
| Plastic Components and Protective Cover Material | Stainless Steel Filled Impact Modified Nylon |
| Available Module Positions | 2 |
| Cycle Life | 10,000 Cycles |
| Temperature | -55° C to 100° C |

The EMI shielding effect on the iConEMI ITA is provided by the stainless steel fibers in the removable plastic cover and threaded metal coupling adapter. The opening in the threaded coupling adapter provides clearance for a maximum cable bundle of 1.50 sq. in. Protective cover included.

160 Position QuadraPaddle Signal Modules

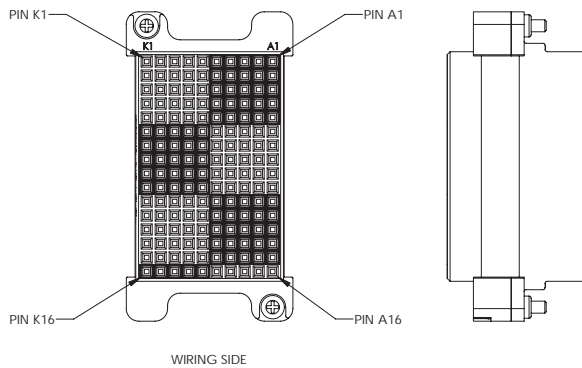


Module Specifications

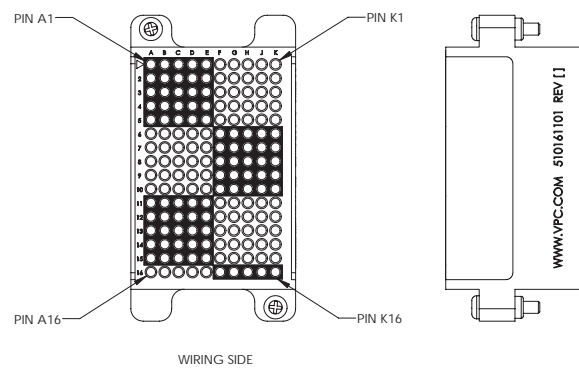
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | Black High-Temp Thermoplastic |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| ITA Module Material | Black High-Temp Thermoplastic |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| Available Contact Positions | 160 |
| Module Positions Needed | 1 |



160 Position QuadraPaddle Modules • ITA and Receiver



RCV • Part # 510 160 101



ITA • Part # 510 161 101

| Part # | Description | Contacts Used |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| ICON RECEIVER QUADRAPADDLE MODULE | | |
| 510 160 101 | QuadraPaddle Signal Module, Receiver, iCon, 160 Position, for Crimp Contacts | 610 138 116 |
| 510 160 105 | QuadraPaddle Signal Module, Receiver, iCon, 160 Position, fully loaded with 610 138 100 Twin Female Contacts | 610 138 100 610 138 117 610 138 118 |
| ICON ITA QUADRAPADDLE MODULE | | |
| 510 161 101 | QuadraPaddle Signal Module, ITA, iCon, 160 Position | 610 138 109 610 138 111 610 138 112 610 138 115 |



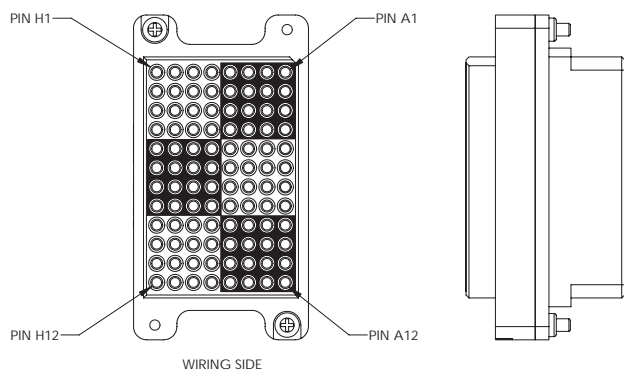
96 Position TriPaddle Signal Modules ▼

Module Specifications

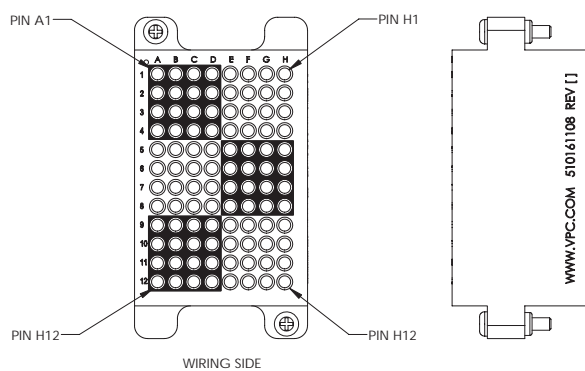
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 96 |
| Module Positions Needed | 1 |



96 Position TriPaddle Signal Modules • ITA and Receiver



RCV • Part # 510 160 108



ITA • Part # 510 161 108

| Part # | Description | Contacts Used |
|------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------|
| ICON RECEIVER TRIPADDLE SIGNAL MODULE 510 160 108 | TriPaddle Signal Module, Receiver, iCon, 96 Position | 610 110 101 610 110 104 610 110 128 610 110 167 |
| ICON ITA TRIPADDLE SIGNAL MODULE 510 161 108 | TriPaddle Signal Module, ITA, iCon, 96 Position | 610 110 108 610 110 113 610 110 129 610 110 169 |

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PATCHCORD
designer
vpc.com/patchcorddesigner

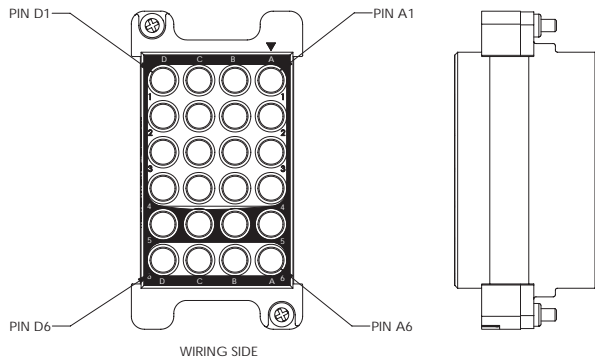
24 Position Mini Power or Mini Coaxial Modules

Module Specifications

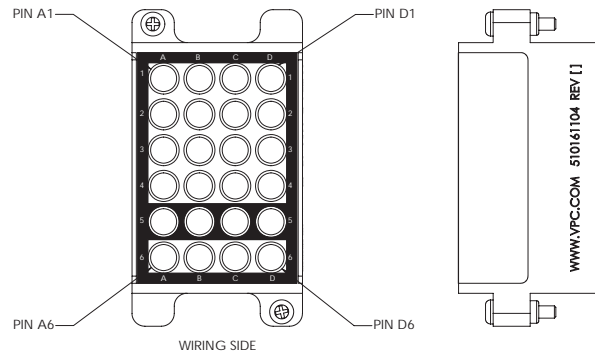
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | Black High-Temp Thermoplastic |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| ITA Module Material | Black High-Temp Thermoplastic |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| Available Contact Positions | 24 |
| Module Positions Needed | 1 |



24 Position Mini Power or Mini Coaxial Modules • ITA and Receiver



RCV • Part # 510 160 104



ITA • Part # 510 161 104

| Part # | Description | Contacts Used | |
|-------------------------------------------------|----------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| | | MINI POWER | MINI COAX |
| ICON RECEIVER MINI POWER OR MINI COAXIAL MODULE | | | |
| 510 160 104 | Mini Power or Mini Coaxial Module, Receiver, iCon, 24 Position | 610 116 112 | 610 104 114 610 104 140 610 104 141 610 104 142 |
| ICON ITA MINI POWER OR MINI COAXIAL MODULE | | | |
| 510 161 104 | Mini Power or Mini Coaxial Module, ITA, iCon, 24 Position | 610 115 124 610 115 125 | 610 103 115 610 103 129 610 103 130 610 103 136 610 103 140 610 103 150 610 103 161 |

NOTE: Mini Pneumatic contacts (610 132 106 and 610 131 108) can be used with these modules. Please see page 40 for details.

NOTE: Refer to User's Manual for power applications with this module.

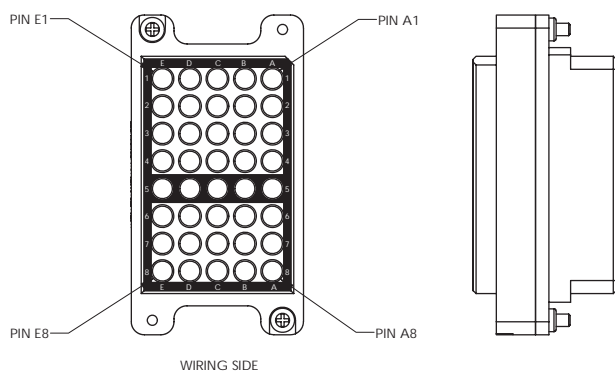
40 Position Micro Power or Micro Coaxial Modules ▼

Module Specifications

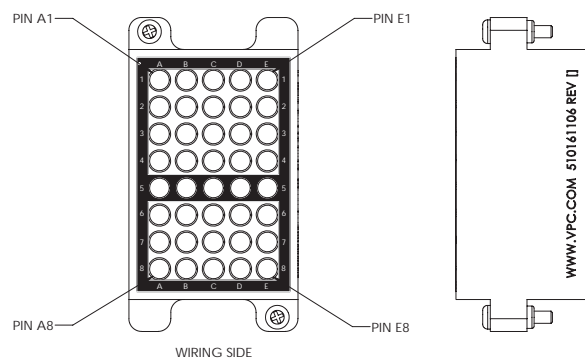
| | |
|-----------------------------|---------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to -140°C |
| Available Contact Positions | 40 |
| Module Positions Needed | 1 |



40 Position Micro Power or Micro Coax Modules • ITA and Receiver



RCV • Part # 510 160 106



ITA • Part # 510 161 106

| Part # | Description | Contacts Used | |
|---------------------------------------------------------------|------------------------------------------------------------------|----------------------------|-------------------------------------------|
| | | MICRO POWER | MICRO COAX |
| ICON RECEIVER MICRO POWER OR MICRO COAX MODULE 510 160 106 | Micro Power or Micro Coaxial Module, Receiver, iCon, 40 Position | 610 142 101 610 142 102 | 610 140 101 610 140 102 610 140 103 |
| ICON ITA MICRO POWER OR MICRO COAX MODULE 510 161 106 | Micro Power or Micro Coaxial Module, ITA, iCon, 40 Position | 610 143 101 | 610 141 101 610 141 102 610 141 103 |

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PATCHCORD
designer

vpc.com/patchcorddesigner

NOTE: Refer to User's Manual for power applications with this module.

18 Position 20 GHz and 75 Ohm HD Coaxial Modules

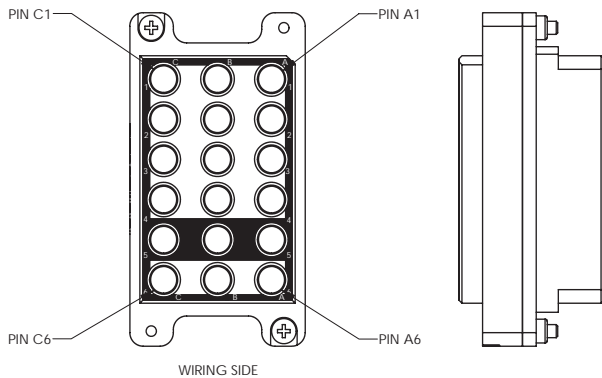


Module Specifications

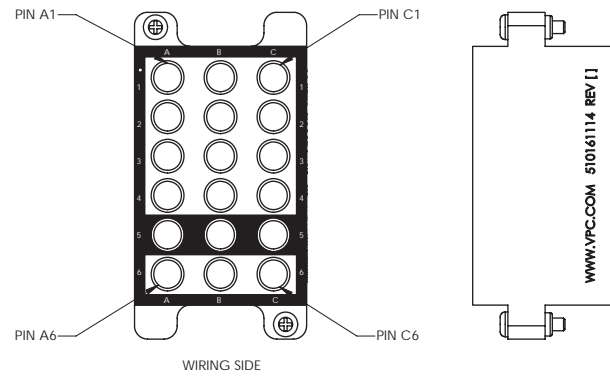
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 18 |
| Module Positions Needed | 1 |



18 Position 20 GHz and 75 Ohm HD Coaxial Modules • ITA and Receiver



RCV • Part # 510 160 114



ITA • Part # 510 161 114

| Part # | Description | Contacts Used | |
|-------------|--------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|
| | | 20 GHz | 75 OHM HD |
| 510 160 114 | ICON RECEIVER 20 GHZ AND 75 OHM HD COAXIAL MODULE Coaxial Module, Receiver, iCon, 20 GHz/75 Ohm HD, 18 Position | 610 102 109 610 102 119 | 610 102 133 |
| 510 161 114 | ICON ITA 20 GHZ AND 75 OHM HD COAXIAL MODULE Coaxial Module, ITA, iCon, 20 GHz/75 Ohm HD, 18 Position | 610 102 110 610 102 118 | 610 102 132 |

NOTE: Refer to User's Manual for power applications with this module.



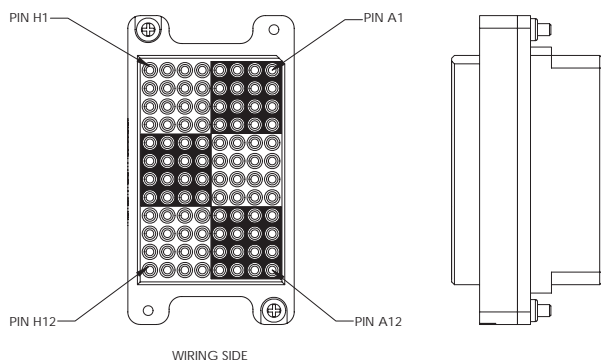
96 Position Thermocouple Modules ▼

Module Specifications

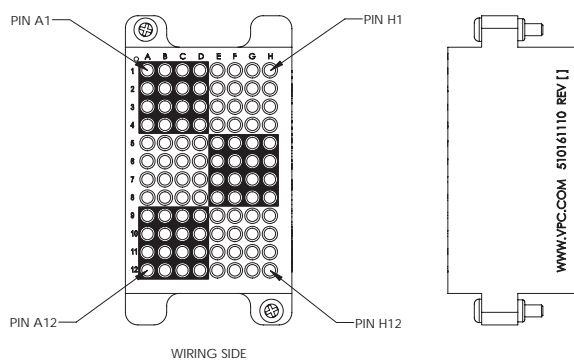
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| Available Contact Positions | 96 |
| Module Positions Needed | 1 |



96 Position Thermocouple Modules • ITA and Receiver



RCV • Part # 510 160 110



ITA • Part # 510 161 110

| Part # | Description | Contacts Used | |
|--------------------------------------------------|--------------------------------------------------|---------------|-------------|
| | | CHROMEL | ALUMEL |
| ICON RECEIVER THERMOCOUPLE MODULE 510 160 110 | Thermocouple Module, Receiver, iCon, 96 Position | 610 113 131 | 610 113 132 |
| ICON ITA THERMOCOUPLE MODULE 510 161 110 | Thermocouple Module, ITA, iCon, 96 Position | 610 113 133 | 610 113 134 |

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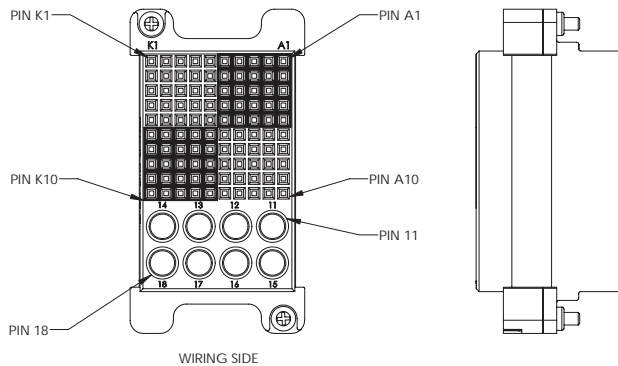
100/8 QuadraPaddle/Mini Power or Mini Coaxial Modules ▼

Module Specifications

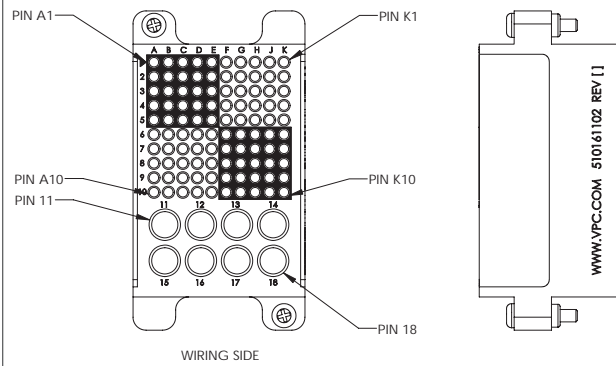
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | Black High-Temp Thermoplastic |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| ITA Module Material | Black High-Temp Thermoplastic |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| Available Contact Positions | 100/8 |
| Module Positions Needed | 1 |



100/8 Position QuadraPaddle/Mini Power or Mini Coaxial Modules
ITA and Receiver



RCV • Part # 510 160 102



ITA • Part # 510 161 102

| Part # | Description | Contacts Used | | |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| | | QUADRAPADDLE | MINI POWER | MINI COAX |
| ICON RECEIVER QUADRAPADDLE/MINI POWER OR MINI COAXIAL MODULE | | | | |
| 510 160 102 | QuadraPaddle Signal/Mini Power or Mini Coaxial Module, Receiver, iCon, 100/8 Position | 610 138 116 | 610 116 112 | 610 104 114 610 104 140 610 104 141 610 104 142 |
| ICON ITA QUADRAPADDLE/MINI POWER OR MINI COAXIAL MODULE | | | | |
| 510 161 102 | QuadraPaddle Signal/Mini Power or Mini Coaxial Module, ITA, iCon, 100/8 Position | 610 138 109 610 138 111 610 138 112 610 138 115 | 610 115 124 610 115 125 | 610 103 115 610 103 129 610 103 130 610 103 136 610 103 140 610 103 150 610 103 161 |

NOTE: Mini Pneumatic contacts (610 132 106 and 610 131 108) can be used with these modules. Please see page 40 for details.



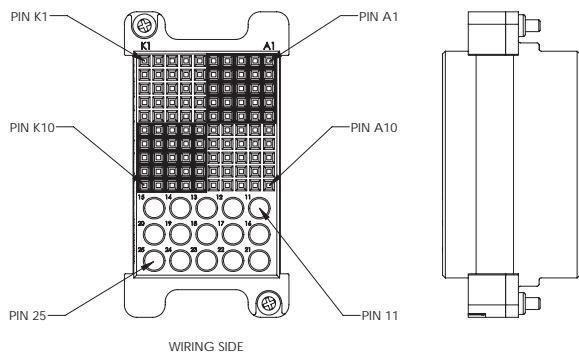
100/15 QuadraPaddle/Micro Power or Micro Coaxial Modules ▼

Module Specifications

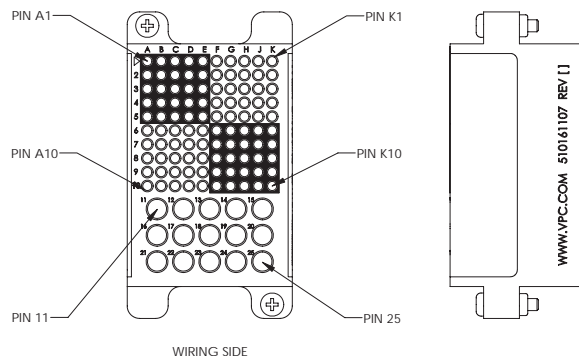
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | Black High Temp. Thermoplastic |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| ITA Module Material | Black High Temp. Thermoplastic |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -65°C to 220°C |
| Available Contact Positions | 100/15 |
| Module Positions Needed | 1 |



100/15 Position QuadraPaddle/Micro Power or Micro Coaxial Modules
ITA and Receiver



RCV • Part # 510 160 107



ITA • Part # 510 161 107

| Part # | Description | Contacts Used | | |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------|-------------------------------------------|
| | | QUADRAPADDLE | MICRO POWER | MICRO COAX |
| ICON RECEIVER QUADRAPADDLE/MICRO POWER OR MICRO COAXIAL MODULE | | | | |
| 510 160 107 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 100/15 Position, for Crimp Contacts | 610 138 116 | 610 142 101 610 142 102 | 610 140 101 610 140 102 610 140 103 |
| 510 160 112 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 100/15 Position, loaded with 100 610138100 Twin Female Contacts | 610 138 100 610 138 117 610 138 118 | 610 142 101 610 142 102 | 610 140 101 610 140 102 610 140 103 |
| ICON ITA QUADRAPADDLE/MICRO POWER OR MICRO COAXIAL MODULE | | | | |
| 510 161 107 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 100/15 Position | 610 138 109 610 138 111 610 138 112 610 138 115 | 610 143 101 | 610 141 101 610 141 102 610 141 103 |

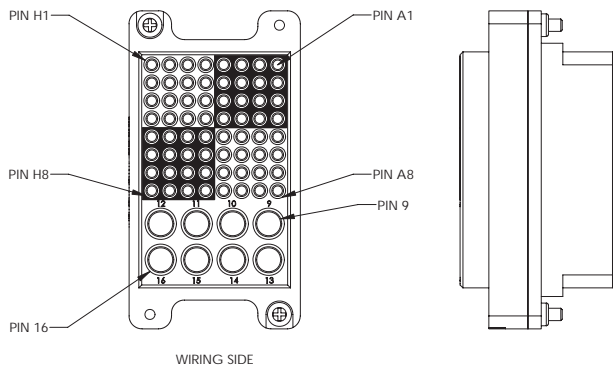
64/8 TriPaddle Signal/Mini Power or Mini Coaxial Modules ▼

Module Specifications

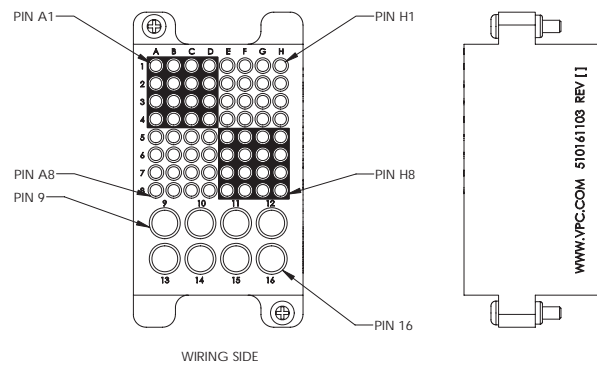
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 64/8 |
| Module Positions Needed | 1 |



64/8 Position TriPaddle Signal/Mini Power or Mini Coaxial Modules
ITA and Receiver



RCV • Part # 510 160 103



ITA • Part # 510 161 103

| Part # | Description | Contacts Used | | |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------|----------------------------|----------------------------|
| ICON RECEIVER TRIPADDLE SIGNAL/MINI POWER OR MINI COAXIAL MODULE | | TRIPADDLE | MINI POWER | MINI COAX |
| 510 160 103 | TriPaddle Signal/Mini Power or Mini Coaxial Module, Receiver, iCon, 64/8 Position | 610 110 101 | 610 116 112 | 610 104 114 |
| | | 610 110 104 | | 610 104 140 |
| | | 610 110 128 | | 610 104 141 |
| | | 610 110 167 | | 610 104 142 |
| | | | | |
| ICON ITA TRIPADDLE SIGNAL/MINI POWER OR MINI COAXIAL MODULE | | | | |
| 510 161 103 | TriPaddle Signal/Mini Power or Mini Coaxial Module, ITA, iCon, 64/8 Position | 610 110 108 | 610 115 124 610 115 125 | 610 103 115 |
| | | 610 110 113 | | 610 103 129 |
| | | 610 110 129 | | 610 103 130 |
| | | 610 110 169 | | 610 103 136 |
| | | | | 610 103 150 610 103 161 |

NOTE: Mini Pneumatic contacts (610 132 106 and 610 131 108) can be used with these modules. Please see page 40 for details.

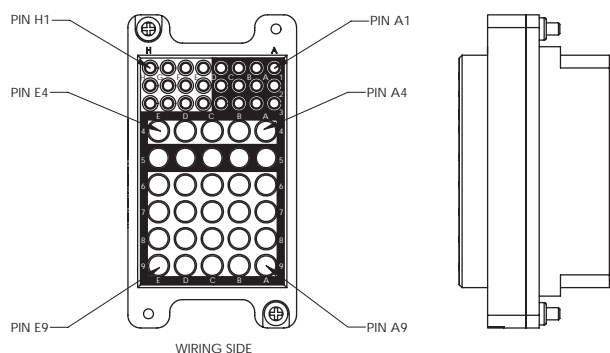
24/30 TriPaddle Signal/Micro Power or Micro Coaxial Modules ▼

Module Specifications

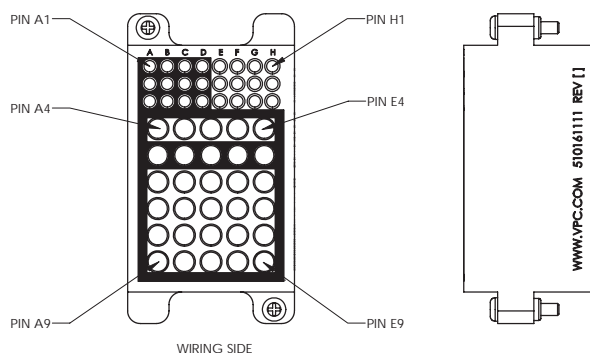
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 24/30 |
| Module Positions Needed | 1 |



24/30 Position TriPaddle/ Micro Power or Micro Coax Modules
ITA and Receiver



RCV • Part # 510 160 111



ITA • Part # 510 161 111

| Part # | Description | Contacts Used | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------|-------------------------------------------|
| | | TRIPADDLE | MICRO POWER | MICRO COAX |
| ICON RECEIVER TRIPADDLE SIGNAL/MICRO POWER OR MICRO COAXIAL MODULE 510 160 111 | TriPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 24/30 Position | 610 110 101 610 110 104 610 110 128 610 110 167 | 610 142 101 610 142 102 | 610 140 101 610 140 102 610 140 103 |
| ICON ITA TRIPADDLE SIGNAL/MICRO POWER OR MICRO COAXIAL MODULE 510 161 111 | TriPaddle Signal/Micro Power or Micro Coaxial Module, ITA, iCon, 24/30 Position | 610 110 108 610 110 113 610 110 129 610 110 169 | 610 143 101 | 610 141 101 610 141 102 610 141 103 |

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NOTE: Refer to User's Manual for power applications with this module.

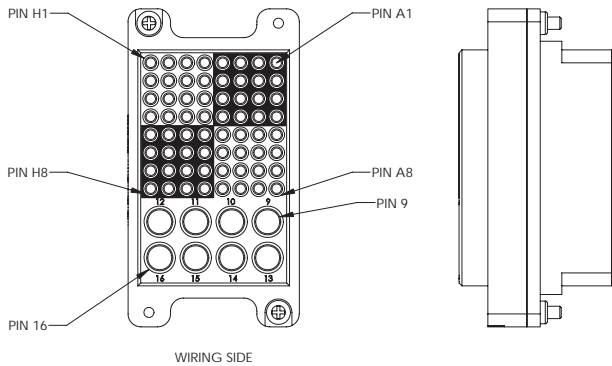
64/8 TriPaddle Signal/20 GHz & 75 Ohm HD Coaxial Modules ▼

Module Specifications

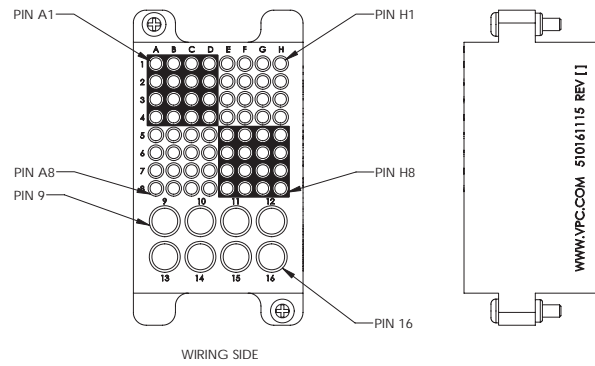
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 64/8 |
| Module Positions Needed | 1 |



64/8 Position TriPaddle Signal/20 GHz & 75 Ohm HD Coaxial Modules
ITA and Receiver



RCV • Part # 510 160 115



ITA • Part # 510 161 115

| Part # | Description | Contacts Used | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------|-------------|-------------|
| | | TRIPADDLE | 20 GHz | 75 OHM HD |
| ICON RECEIVER TRIPADDLE SIGNAL/20 GHZ & 75 OHM HD COAXIAL MODULE 510 160 115 | TriPaddle Signal / 20GHz & 75 Ohm HD Coaxial Module, Receiver, iCon, 64/8 Position | | | |
| | | 610 110 101 | 610 102 109 | 610 102 133 |
| | | 610 110 104 | 610 102 119 | |
| | | 610 110 128 | | |
| | | 610 110 167 | | |
| ICON ITA TRIPADDLE SIGNAL/20 GHZ COAXIAL MODULE 510 161 115 | TriPaddle Signal / 20GHz & 75 Ohm HD Coaxial Module, ITA, iCon, 64/8 Position | | | |
| | | 610 110 108 | 610 102 110 | 610 102 132 |
| | | 610 110 113 | 610 102 118 | |
| | | 610 110 129 | | |
| | | 610 110 169 | | |



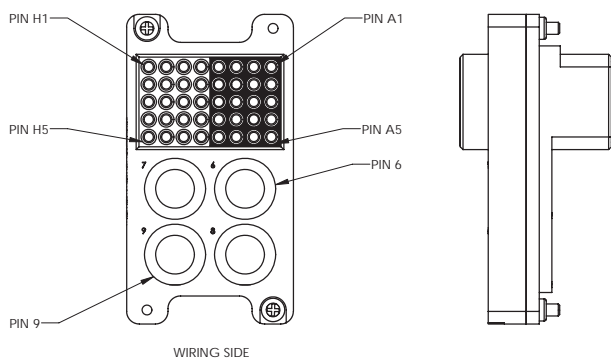
40/4 Position TriPaddle/Twinaxial Modules ▼

Module Specifications

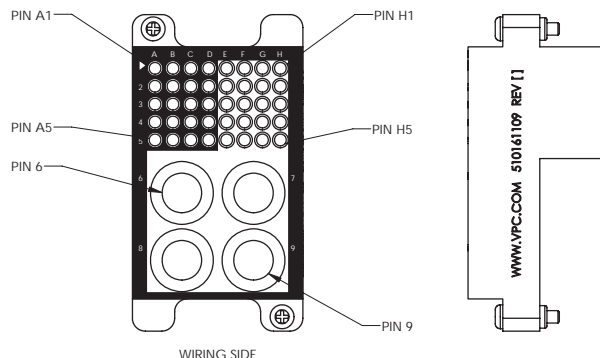
| | |
|-----------------------------|--------------------------------------------------------------|
| Receiver Module Material | G10 Epoxy Glass |
| Receiver Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| ITA Module Material | G10 Epoxy Glass |
| ITA Module Temperature | Operating • -55°C to 125°C Non Operating • -55°C to 140°C |
| Available Contact Positions | 40/4 |
| Module Positions Needed | 1 |



40/4 Position TriPaddle/Twinaxial Modules • ITA and Receiver



RCV • Part # 510 160 109



ITA • Part # 510 161 109

| Part # | Description | Contacts Used | |
|------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------|-------------|
| | | TRIPADDLE | TWINAXIAL |
| ICON RECEIVER TRIPADDLE/TWINAXIAL MODULE | | | |
| 510 160 109 | TriPaddle Signal/Twinaxial Module, Receiver, iCon, 40/4 Position | 610 110 101 610 110 104 610 110 128 610 110 167 | 610 113 144 |
| ICON ITA TRIPADDLE/TWINAXIAL MODULE | | | |
| 510 161 109 | TriPaddle Signal/Twinaxial Module, ITA, iCon, 40/4 Position | 610 110 108 610 110 113 610 110 129 610 110 169 | 610 113 145 |

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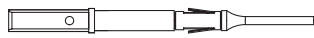
QuadraPaddle® Signal Contacts ▼

Contact Specifications

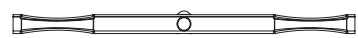
| | |
|---------------------------------------|----------------------------------------------------------------------------|
| Operating Current and Voltage | 3 Amp Max. Continuous; 600 volt Max. use of wire Mil-W-16878/4 |
| Contact Resistance | 25 mOhms Max. Measured at 50 mV @ 100 mA |
| Mating Force | 2 oz. Nominal [0.05 Kg] |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Insulation Resistance | 5000 Mohms Min. |
| Contact Body | (RCV) – BeCu (Twin Female) BeCu/PhBrz (Crimp) Male (ITA) – Brass |
| Contact Plating | Female (RCV) – 50μ" Au over 100μ" Ni Male (ITA) – 30μ" Au over 100μ" Ni |
| Cycle Life | 20,000 Cycles |



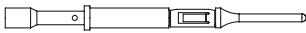
Part # 610 138 116



Part # 610 138 109



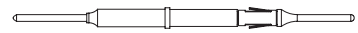
Part # 610 138 100



Part # 610 138 112



Part # 610 138 115



Part # 610 138 111



Part # 610 138 117



Part # 610 138 118

| Part # | Description | Used in Module |
|---------------------------------------|-------------------------------------------------------------------------------------------|---------------------|
| QUADRAPADDLE RECEIVER CONTACTS | | |
| 610 138 100 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Twin Female – Replacement | 510 160 105/112 |
| 610 138 116 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, 22-28 AWG, Crimp | 510 160 101/102/107 |
| 610 138 117 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Male Adapter, .025" Round Post | 510 160 105/112 |
| 610 138 118 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Male Adapter, .025" Square Post, Wire Wrap | 510 160 105/112 |
| QUADRAPADDLE ITA CONTACTS | | |
| 610 138 109 | Signal Contact, ITA, QuadraPaddle, 3 Amp, 22–24 AWG, Crimp/Solder | 510 161 101/102/107 |
| 610 138 111 | Signal Contact, ITA, QuadraPaddle, 3 Amp, Press Fit Wire Wrap | 510 161 101/102/107 |
| 610 138 112 | Signal Contact, ITA, QuadraPaddle, 3 Amp, 26–28 AWG, Crimp/Solder | 510 161 101/102/107 |
| 610 138 115 | Signal Contact, ITA, QuadraPaddle, 3 Amp, Twin Male, Round Post | 510 161 101/102/107 |

QuadraPaddle® Signal Patchcords ▼



QuadraPaddle Receiver Patchcord

QuadraPaddle ITA Patchcord

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-----------------------------------------|--------------|--------|-----|------------------------|---------------------|
| QUADRAPADDLE RECEIVER PATCHCORDS | | | | | |
| 7-122 922 000-036 | 610 138 116 | 36" | 22 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 922 000-072 | 610 138 116 | 72" | 22 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 924 000-036 | 610 138 116 | 36" | 24 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 924 000-072 | 610 138 116 | 72" | 24 | Receiver, Single Ended | 510 160 101/102/107 |
| QUADRAPADDLE ITA PATCHCORDS | | | | | |
| 7-121 922 000-036 | 610 138 109 | 36" | 22 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 922 000-072 | 610 138 109 | 72" | 22 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 924 000-036 | 610 138 109 | 36" | 24 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 924 000-072 | 610 138 109 | 72" | 24 | ITA, Single Ended | 510 161 101/102/107 |
| QUADRAPADDLE ITA JUMPERS | | | | | |
| 7-121 922 121-006 | 610 138 109 | 6" | 22 | ITA, Double Ended | 510 161 101/102/107 |
| 7-121 924 121-006 | 610 138 109 | 6" | 24 | ITA, Double Ended | 510 161 101/102/107 |



QuadraPaddle Receiver Twisted Pair Patchcord

QuadraPaddle ITA Twisted Pair Patchcord

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|------------------------------------------------------|--------------|--------|-----|------------------------|---------------------|
| QUADRAPADDLE RECEIVER TWISTED PAIR PATCHCORDS | | | | | |
| 7-122 422 000-036 | 610 138 116 | 36" | 22 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 422 000-072 | 610 138 116 | 72" | 22 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 424 000-036 | 610 138 116 | 36" | 24 | Receiver, Single Ended | 510 160 101/102/107 |
| 7-122 424 000-072 | 610 138 116 | 72" | 24 | Receiver, Single Ended | 510 160 101/102/107 |
| QUADRAPADDLE ITA TWISTED PAIR PATCHCORDS | | | | | |
| 7-121 422 000-036 | 610 138 109 | 36" | 22 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 422 000-072 | 610 138 109 | 72" | 22 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 424 000-036 | 610 138 109 | 36" | 24 | ITA, Single Ended | 510 161 101/102/107 |
| 7-121 424 000-072 | 610 138 109 | 72" | 24 | ITA, Single Ended | 510 161 101/102/107 |
| QUADRAPADDLE ITA TWISTED PAIR JUMPERS | | | | | |
| 7-121 422 121-006 | 610 138 109 | 6" | 22 | ITA, Double Ended | 510 161 101/102/107 |
| 7-121 424 121-006 | 610 138 109 | 6" | 24 | ITA, Double Ended | 510 161 101/102/107 |

QuadraPaddle® Contact Tools ▼

Part # 910 101 103



Part # 910 101 103 is used with Locator Part # 910 104 140 to crimp ITA QuadraPaddle contacts to 22-28 AWG wire.

Part # 910 101 125



Crimp Tool Part # 910 101 125 is used to crimp receiver QuadraPaddle contacts.

Part # 910 110 112



Extraction Tool Part # 910 110 112 is used to extract the receiver QuadraPaddle contacts from the module.

Part # 910 110 111



Extraction Tool Part # 910 110 111 is used to remove the ITA QuadraPaddle contacts from the module.

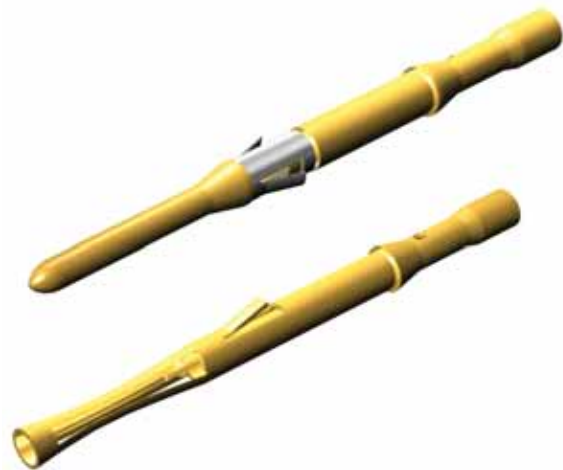
| Part # | Description | Used on Contact |
|-------------------------|--------------------------------------------------------------------|-------------------------|
| CRIMP TOOLS | | |
| 910 101 103 | Tool, Crimp, QuadraPaddle and TriPaddle Contacts, Locator Required | 610 138 109/112 |
| 910 101 125 | Tool, Crimp, QuadraPaddle, Receiver | 610 138 116 |
| 910 104 140 | Tool, Locator, QuadraPaddle, ITA | 610 138 109/112 |
| EXTRACTION TOOLS | | |
| 910 110 111 | Tool, Extraction, QuadraPaddle, ITA | 610 138 109/111/112/115 |
| 910 110 112 | Tool, Extraction, QuadraPaddle, Receiver | 610 138 116 |

Visit vpc.com for complete instructions on how to use these tools.

TriPaddle Signal Contacts ▼

Contact Specifications

| | |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Operating Voltage and Current | 5 Amp Max. Continuous (22 AWG) 10 Amp Max. Continuous (14 AWG) 600 Volt Max. use of wire mil-w-16878/4 |
| Contact Resistance | 4 mOhms Max. Measured at 50 mV @ 100 mA |
| Mating Force | 4 oz. Nominal [0.11 Kg] |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Insulation Resistance | 4000 MOhms Min. |
| Contact Body | Female (RCV) – BeCu Male (ITA) – Brass |
| Contact Plating | Female (RCV) – 30μ" Au over 100μ" Ni Male (ITA) – 30μ" Au over 100μ" Ni 10 Amp (RCV & ITA) – 50μ" Au over 100μ" Ni |
| Cycle Life | 20,000 Cycles |



Part # 610 110 101



Part # 610 110 108



Part # 610 110 128



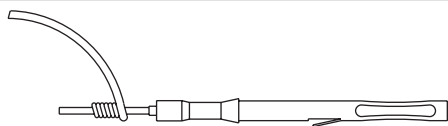
Part # 610 110 129



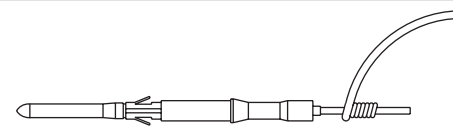
Part # 610 110 167



Part # 610 110 169



Part # 610 110 104



Part # 610 110 113

| Part # | Description | Used in Module |
|------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------|
| TRIPADDLE RECEIVER CONTACTS | | |
| 610 110 101 | Signal Contact, Receiver, TriPaddle, 5 Amp, 20-24 AWG, 30μ" Gold, Crimp | 510 160 103/108/109/111/115 |
| 610 110 104 | Signal Contact, Receiver, TriPaddle, 5 Amp, 0.025" Square Post for Wire Wrap, 30μ" Gold | 510 160 103/108/109/111/115 |
| 610 110 128 | Signal Contact, Receiver, TriPaddle, 10 Amp, 14 AWG (max), 50μ" Gold, Crimp/Solder | 510 160 103/108/109/111/115 |
| 610 110 167 | Signal Contact, Receiver, TriPaddle, 5 Amp, 26-28 AWG, 30μ" Gold, Crimp/Solder | 510 160 103/108/109/111/115 |
| TRIPADDLE ITA CONTACTS | | |
| 610 110 108 | Signal Contact, ITA, TriPaddle, 5 Amp, 20-24 AWG, 30μ" Gold, Crimp/Solder | 510 161 103/108/109/111/115 |
| 610 110 113 | Signal Contact, ITA, TriPaddle, 5 Amp, 0.025" Square Post for Wire Wrap, 30μ" Gold | 510 161 103/108/109/111/115 |
| 610 110 129 | Signal Contact, ITA, TriPaddle, 10 Amp, 14 AWG (max), 30μ" Gold, Crimp/Solder | 510 161 103/108/109/111/115 |
| 610 110 169 | Signal Contact, ITA, TriPaddle, 5 Amp, 26-28 AWG, 30μ" Gold, Crimp/Solder | 510 161 103/108/109/111/115 |



TriPaddle Signal Patchcords ▼



TriPaddle Receiver Patchcord

TriPaddle ITA Patchcord

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-------------------------------------------------------|--------------|--------|-----|------------------------|-----------------------------|
| TRIPADDLE RECEIVER PATCHCORDS | | | | | |
| 7-102 914 000-036 | 610 110 128 | 36" | 14 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-102 914 000-072 | 610 110 128 | 72" | 14 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 922 000-036 | 610 110 101 | 36" | 22 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 922 000-072 | 610 110 101 | 72" | 22 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 924 000-036 | 610 110 101 | 36" | 24 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 924 000-072 | 610 110 101 | 72" | 24 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| TRIPADDLE ITA PATCHCORDS | | | | | |
| 7-101 914 000-036 | 610 110 129 | 36" | 14 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-101 914 000-072 | 610 110 129 | 72" | 14 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 922 000-036 | 610 110 108 | 36" | 22 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 922 000-072 | 610 110 108 | 72" | 22 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 924 000-036 | 610 110 108 | 36" | 24 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 924 000-072 | 610 110 108 | 72" | 24 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| TRIPADDLE ITA PATCHCORD JUMPERS (DOUBLE ENDED) | | | | | |
| 7-101 914 101-006 | 610 110 129 | 6" | 14 | ITA, Double Ended | 510 161 103/108/109/111/115 |
| 7-103 922 103-006 | 610 110 108 | 6" | 22 | ITA, Double Ended | 510 161 103/108/109/111/115 |
| 7-103 924 103-006 | 610 110 108 | 6" | 24 | ITA, Double Ended | 510 161 103/108/109/111/115 |



TriPaddle Receiver Twisted Pair Patchcord

TriPaddle ITA Twisted Pair Patchcord

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|--------------------------------------------------------------------|--------------|--------|-----|------------------------|-----------------------------|
| TRIPADDLE RECEIVER TWISTED PAIR PATCHCORDS | | | | | |
| 7-104 422 000-036 | 610 110 101 | 36" | 22 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 422 000-072 | 610 110 101 | 72" | 22 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 424 000-036 | 610 110 101 | 36" | 24 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| 7-104 424 000-072 | 610 110 101 | 72" | 24 | Receiver, Single Ended | 510 160 103/108/109/111/115 |
| TRIPADDLE ITA TWISTED PAIR PATCHCORDS | | | | | |
| 7-103 422 000-036 | 610 110 108 | 36" | 22 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 422 000-072 | 610 110 108 | 72" | 22 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 424 000-036 | 610 110 108 | 36" | 24 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| 7-103 424 000-072 | 610 110 108 | 72" | 24 | ITA, Single Ended | 510 161 103/108/109/111/115 |
| TRIPADDLE ITA TWISTED PAIR PATCHCORD JUMPERS (DOUBLE ENDED) | | | | | |
| 7-103 422 103-006 | 610 110 108 | 6" | 22 | ITA, Double Ended | 510 161 103/108/109/111/115 |
| 7-103 424 103-006 | 610 110 108 | 6" | 24 | ITA, Double Ended | 510 161 103/108/109/111/115 |

TriPaddle Contact Tools ▼

Part # 910 101 102



Crimp Tool Part # 910 101 102 and Locator Part # 910 104 116 and 910 104 118 are used to crimp TriPaddle contacts to 14–16 AWG wire.

Part # 910 104 127



Locator Part # 910 104 127 and Crimp Tool Part # 910 101 103 are used to crimp TriPaddle Receiver contacts to 20–28 AWG wire.

Part # 910 104 107



Locator Part # 910 104 107 and Crimp Tool Part # 910 101 103 are used to crimp TriPaddle ITA contacts to 20–28 AWG wire.

Part # 910 110 102



Extraction Tool Part # 910 110 102 is used to extract Receiver and ITA TriPaddle contacts.

| Part # | Description | Used on Contact |
|--------|-------------|-----------------|
|--------|-------------|-----------------|

CRIMP TOOLS

| | | |
|-------------|----------------------------------------------------------------------------------------------------------|-------------------------|
| 910 101 102 | Tool, Crimp, 10 Amp TriPaddle, Thermocouple and Micro Power Contacts, Receiver and ITA, Locator Required | 610 110 128/129 |
| 910 101 103 | Tool, Crimp, QuadraPaddle and TriPaddle Contacts, Locator Required | 610 110 101/108/167/169 |
| 910 104 107 | Tool, Locator, TriPaddle ITA | 610 110 108/169 |
| 910 104 116 | Tool, Locator, TriPaddle, Receiver | 610 110 128 |
| 910 104 118 | Tool, Locator, TriPaddle, ITA | 610 110 129 |
| 910 104 127 | Tool, Locator, TriPaddle, Receiver | 610 110 101/167 |

EXTRACTION TOOL

| | | |
|-------------|----------------------------------------------------------------|----------------------------------------------------|
| 910 110 102 | Tool, Extraction, TriPaddle and Thermocouple, Receiver and ITA | 610 110 101/104/108/113 610 110 128/129/167/169 |
|-------------|----------------------------------------------------------------|----------------------------------------------------|

Visit vpc.com for complete instructions on how to use these tools.



Mini Power Contacts and Patchcords ▼

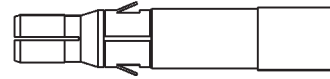
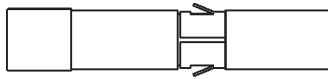
Contact Specifications

| | |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Operating Voltage and Current | 50 Amp Max. Continuous • 8 AWG 40 Amp Max. Continuous • 12 AWG 30 Amp Max. Continuous • 14 AWG 25 Amp Max. Continuous • 16 AWG |
| Contact Resistance | 10 mOhms Max. |
| Mating Force | Insertion • 5.7 lbs Max. [2.58 Kg] Extraction • 5.0 lbs Max. [2.26 Kg] |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Insulation Resistance | 1000 MOhms Min. |
| Contact Body | Female (RCV) – Brass Male (ITA) – BeCu |
| Contact Plating | Female (RCV) – 50μ" Au over 100μ" Ni Male (ITA) – 50μ" Au over 100μ" Ni |
| Cycle Life | 20,000 Cycles |



Mini Power Receiver Patchcord

Mini Power ITA Patchcord



Part # 610 116 112

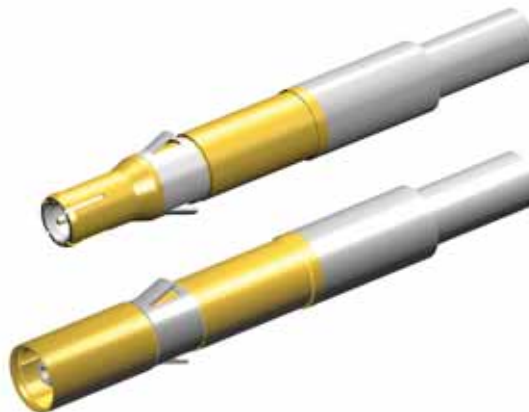
Part # 610 115 124

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-----------------------------------------------|--------------------------------------------------------------|--------|-----|------------------------|---------------------|
| MINI POWER RECEIVER CONTACTS | | | | | |
| 610 116 112 | Mini Power Contact, Receiver, 8 AWG (max), 50μ" Gold, Solder | | | | 510 160 102/103/104 |
| MINI POWER ITA CONTACTS | | | | | |
| 610 115 124 | Mini Power Contact, ITA, 8 AWG (max), 50μ" Gold, Solder | | | | 510 161 102/103/104 |
| 610 115 125 | Mini Power Contact, ITA, 8 AWG (max), 30μ" Gold, Solder | | | | 510 161 102/103/104 |
| MINI POWER RECEIVER AND ITA PATCHCORDS | | | | | |
| 7-232 912 000-036 | 610 116 125 | 36" | 12 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-232 912 000-072 | 610 116 125 | 72" | 12 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-241 912 000-036 | 610 116 130 | 36" | 12 | ITA, Single Ended | 510 160 102/103/104 |
| 7-241 912 000-072 | 610 116 130 | 72" | 12 | ITA, Single Ended | 510 160 102/103/104 |

50 Ohm Mini Coaxial Contacts and Patchcords ▼

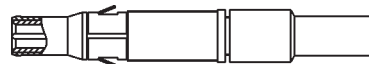
Contact Specifications

| | |
|---------------------------------------|-----------------------------------------------------------------------------|
| Characteristic Impedence | 50 Ohms |
| Frequency Range | DC to 1 GHz |
| Insertion Loss | 1.2 dB @ 1 GHz 1.02 dB @ 500 MHz |
| VSWR | ≤ 1.06 @ 1 GHz |
| Operating Current | 0.5 Amp Max. Continuous |
| Contact Resistance | 5 mOhms Max. |
| Mating Force | 1.5 lbs Max. [0.68 Kg] |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Insulation Resistance | 1000 mOhms Min. |
| Contact Body | Female & Male (RCV & ITA) – shield – Brass, center conductor – BeCu |
| Contact Plating | Center conductor – 60μ" Au over 100μ" Ni; Shield – 50μ" Au over 100μ" Ni |
| Cycle Life | 20,000 Cycles |



Mini Coaxial Receiver Patchcord

Mini Coaxial ITA Patchcord



Part # 610 104 114

Part # 610 103 115

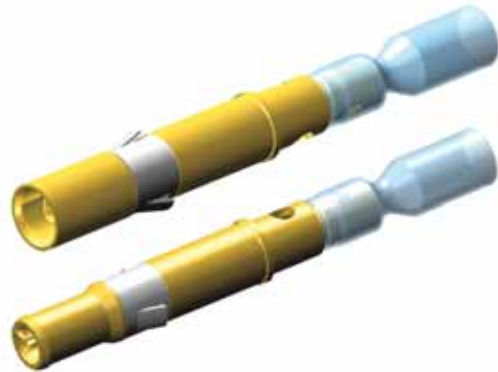
| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-----------------------------------------|---------------------------------------------------------------------------|--------|-------|------------------------|---------------------|
| MINI COAXIAL RECEIVER CONTACTS | | | | | |
| 610 104 114 | Mini Coaxial Contact, Receiver, RG316 | | | | 510 160 102/103/104 |
| 610 104 140 | Mini Coaxial Contact, Receiver, Two 0.025" Square Posts, Wire Wrap | | | | 510 160 102/103/104 |
| 610 104 141 | Mini Coaxial Contact, Receiver, RG178 | | | | 510 160 102/103/104 |
| MINI COAXIAL ITA CONTACTS | | | | | |
| 610 103 115 | Mini Coaxial Contact, ITA, RG316 | | | | 510 161 102/103/104 |
| 610 103 129 | Mini Coaxial Contact, ITA, Two 0.025" Square Posts, Wire Wrap | | | | 510 161 102/103/104 |
| 610 103 130 | Mini Coaxial Contact, ITA, RG178 | | | | 510 161 102/103/104 |
| 610 103 136 | Mini Coaxial Contact, ITA, 24 AWG | | | | 510 161 102/103/104 |
| 610 103 150 | Mini Coaxial Contact, ITA, Two 0.025" Round Posts for PCB, 0.075" Spacing | | | | 510 161 102/103/104 |
| 610 103 161 | Mini Coaxial Contact, ITA, 24 and 26 AWG Twisted Pair | | | | 510 161 102/103/104 |
| MINI COAXIAL RECEIVER PATCHCORDS | | | | | |
| 7-332 116 000-036 | 610 104 114 | 36" | RG316 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-332 144 000-036 | 610 104 114 | 36" | SM405 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-334 178 000-036 | 610 104 141 | 36" | RG178 | Receiver, Single Ended | 510 160 102/103/104 |
| MINI COAXIAL ITA PATCHCORDS | | | | | |
| 7-331 116 000-036 | 610 103 115 | 36" | RG316 | ITA, Single Ended | 510 161 102/103/104 |
| 7-331 144 000-036 | 610 103 115 | 36" | SM405 | ITA, Single Ended | 510 161 102/103/104 |
| 7-333 178 000-036 | 610 103 130 | 36" | RG178 | ITA, Single Ended | 510 161 102/103/104 |
| 7-335 924 000-036 | 610 103 136 | 36" | 24 | ITA, Single Ended | 510 161 102/103/104 |



50 Ohm Mini Coaxial Solder Sleeve Contacts and Patchcords ▼

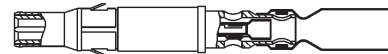
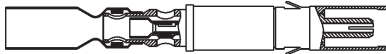
Contact Specifications

| | |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Characteristic Impedence | 50 Ohms |
| Frequency Range | DC to 2 GHz |
| Insertion Loss | ≤ .05 dB @ 500 MHz ≤ -0.3 dB @ 2 GHz |
| VSWR | ≤ 1.2 @ 2 GHz |
| Operating Current | 0.5 Amp Max. Continuous |
| Contact Resistance | 5 mOhms Max. |
| Mating Force | 1.5 lbs Max. [0.68 Kg] |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Insulation Resistance | 1000 mOhms Min. |
| Contact Body | Female & Male (RCV & ITA) – shield – Brass, center conductor – BeCu |
| Contact Plating | Center conductor – 60μ" Au over 100μ" Ni; Shield – RCV • 30μ" Au over 100μ" Ni ITA • 50μ" Au over 100μ" Ni |
| Cycle Life | 20,000 Cycles |



Mini Coaxial Solder Sleeve Receiver Patchcord

Mini Coaxial Solder Sleeve ITA Patchcord



Part # 610 104 142

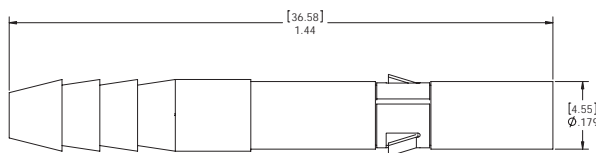
Part # 610 103 140

| Part # | Contact Used | Length | Wire | Description | Used in Module |
|----------------------------------------------------|----------------------------------------------------------------|--------|-------|------------------------|---------------------|
| MINI COAX SOLDER SLEEVE RECEIVER CONTACT | | | | | |
| 610 104 142 | Mini Coaxial Contact, Receiver, Solder Sleeve, RG316 and RG178 | | | | 510 160 102/103/104 |
| MINI COAX SOLDER SLEEVE ITA CONTACT | | | | | |
| 610 103 140 | Mini Coaxial Contact, ITA, Solder Sleeve, RG316 and RG178 | | | | 510 161 102/103/104 |
| MINI COAX SOLDER SLEEVE RECEIVER PATCHCORDS | | | | | |
| 7-338 116 000-036 | 610 104 142 | 36" | RG316 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-338 116 000-072 | 610 104 142 | 72" | RG316 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-338 144 000-036 | 610 104 142 | 36" | SM405 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-338 144 000-072 | 610 104 142 | 72" | SM405 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-338 178 000-036 | 610 104 142 | 36" | RG178 | Receiver, Single Ended | 510 160 102/103/104 |
| 7-338 178 000-072 | 610 104 142 | 72" | RG178 | Receiver, Single Ended | 510 160 102/103/104 |
| MINI COAX SOLDER SLEEVE ITA PATCHCORDS | | | | | |
| 7-339 116 000-036 | 610 103 140 | 36" | RG316 | ITA, Single Ended | 510 161 102/103/104 |
| 7-339 116 000-072 | 610 103 140 | 72" | RG316 | ITA, Single Ended | 510 161 102/103/104 |
| 7-339 144 000-036 | 610 103 140 | 36" | SM405 | ITA, Single Ended | 510 161 102/103/104 |
| 7-339 144 000-072 | 610 103 140 | 72" | SM405 | ITA, Single Ended | 510 161 102/103/104 |
| 7-339 178 000-036 | 610 103 140 | 36" | RG178 | ITA, Single Ended | 510 161 102/103/104 |
| 7-339 178 000-072 | 610 103 140 | 72" | RG178 | ITA, Single Ended | 510 161 102/103/104 |

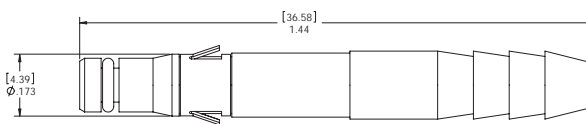
Mini Pneumatic Contacts ▼

Contact Specifications • 1/8" ID [4 mm]

| | |
|-----------------------|---------------------|
| Pressure/Vacuum Rated | 100 psi (6.9 Bar) |
| Contact Body | Nickel-plated Brass |
| Cycle Life | 20,000 |



Part # 610 131 108



Part # 610 132 106

| Part # | Description | Used in Module |
|------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------|
| PNEUMATIC RECEIVER CONTACTS | | |
| 610 131 108 | Mini Pneumatic Contact, Receiver, Hose Barb, 0.125" (4.0mm) ID, Fits Mini Coaxial or Mini Power Modules | 510 160 102/103/104 |
| PNEUMATIC ITA CONTACTS | | |
| 610 132 106 | Mini Pneumatic Contact, ITA, Hose Barb, 0.125" (4.0mm) ID, Fits Mini Coaxial or Mini Power Modules | 510 161 102/103/104 |
| EXTRACTION TOOL | | |
| 910 112 104 | Tool, Extraction, for Mini Pneumatic Contacts | |

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Mini Power and Mini Coaxial Contact Tools ▼

Part # 910 101 115



Crimp Tool Part # 910 101 115 is used to crimp the crimp ring to the contact of the Mini Coax contacts.

Part # 910 121 144



Solder Kit Part # 910 121 144 includes a Raychem Holding Fixture and Adapter which provides a holding fixture for soldering Mini Coax Solder Sleeve contacts.

Part # 910 121 156



Inspection Depth Gauge Part # 910 121 156 is used to verify the depth setting of the center conductor of the Mini Coax contact.

Part # 910 121 119



Center Conductor Forming Tool Part # 910 121 119 forms or closes the center conductor pin on the receiver Mini Coax contact. It is used before patchcord assembly.

Part # 910 121 131



Weight Gauge Kit Part # 910 121 131 is used to form the receiver contacts so the engagement forces are exact.

| Part # | Description | Used in Contact |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| CRIMP & EXTRACTION TOOLS | | |
| 910 101 115 | Tool, Crimp, Coaxial Contacts | 610 103 115/130/161 & 610 104 114/141 |
| 910 101 118 | Tool, Crimp, Coaxial Contacts, ITA, 24 AWG Wire | 610 103 136/161 |
| 910 104 128 | Tool, Locator, Coaxial Contacts, 24 AWG Wire | 610 103 136/161 |
| FORMING TOOLS | | |
| 910 121 126 | Tool, Outer Shield Conductor Forming (ITA—forms or closes shield) | 610 103 115/129/130/136/140/150/161 |
| 910 121 142 | Tool, Outer Shield Conductor Expanding, Mini Coaxial, ITA | 610 103 115/129/130/136/140/150/161 |
| 910 121 143 | Tool, Center Conductor Enlarging, Mini Coaxial, Receiver | 610 104 114/141 |
| INSPECTIONS TOOLS | | |
| 910 121 131 | Tool, Weight Gage Kit, Mini Coaxial, Receiver | 610 104 114/140/141/142 |
| 910 121 155 | Tool, Weight Gage Kit, Mini Coaxial, ITA | 610 103 115/129/130/136/140/150/161 |
| 910 121 156 | Tool, Inspection Depth Gage, Mini Coaxial, Receiver | 610 104 114/140/141/142 |
| 910 121 157 | Tool, Inspection Depth Gage, Mini Coaxial, ITA | 610 103 115/129/130/136/140/150/161 |
| MISCELLANEOUS TOOLS | | |
| 910 121 119 | Tool, Center Conductor Forming, Mini Coaxial, Receiver (used before assembly) | 610 104 114/141 |
| 910 121 144 | Tool, Solder Kit, Mini Coaxial Contacts with Solder Sleeves (includes Raychem Holding Fixture (AD-1319) | 610 103 140 & 610 104 142 |
| 910 121 149 | Tool, Adapter for Raychem Holding Fixture (AD-1319-9) | 610 103 140 & 610 104 142 |
| 910 121 160 | Tool, Steinel Heat Gun with Nozzle – 110V | 610 103 140 & 610 104 142 |
| 910 121 167 | Tool, Steinel Heat Gun with Nozzle – 220V | 610 103 140 & 610 104 142 |
| EXTRACTION TOOL | | |
| 910 112 104 | Tool, Extraction, Mini Power/Mini Coaxial Contacts, Receiver and ITA | Used with all Mini Power, Mini Coaxial and Mini Pneumatic Contacts. |

Visit vpc.com for complete instructions on how to use these tools.

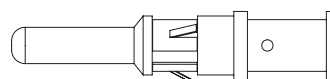
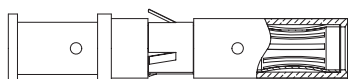
Micro Power Contacts and Patchcords ▼

Contact Specifications

| | |
|---------------------------------------|-----------------------------------------------|
| Current Rating | 22 Amp Continuous (See T-Rise Graph Below) |
| Dielectric Withstanding Voltage (DWV) | 1500 VDC Min. |
| Contact Resistance | 1.5 mOhms Max. |
| Mating Force | 2 lbs Max. [0.90 Kg] |
| Cycle Life | 10,000 Cycles |



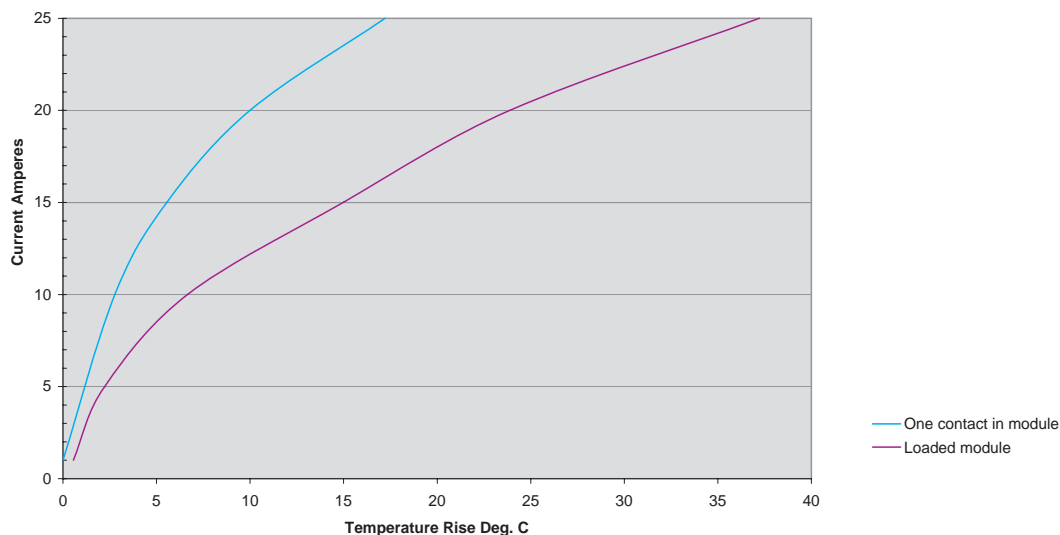
Micro Power Contacts



Part # 610 142 101

Part # 610 143 101

Micro Power Contact 610 142 101/610 143 101
T-Rise Test (12 AWG)



| Part # | Contact Used | Length | Wire | Description | Used in Module |
|------------------------------------------------|----------------------------------------------|--------|--------|------------------------|-------------------------|
| MICRO POWER RECEIVER CONTACTS | | | | | |
| 610 142 101 | Micro Power Contact, Receiver, 12 AWG, Crimp | | | | 510 160 106/107/111/112 |
| 610 142 102 | Micro Power Contact, Receiver, PCB Mount | | | | 510 160 106/107/111/112 |
| MICRO POWER ITA CONTACTS | | | | | |
| 610 143 101 | Micro Power Contact, ITA, 12 AWG, Crimp | | | | 510 161 106/107/111 |
| MICRO POWER RECEIVER AND ITA PATCHCORDS | | | | | |
| 7-252 912 000-036 | 610 142 101 | 36" | 12 AWG | Receiver, Single Ended | 510 160 106/107/111/112 |
| 7-252 912 000-072 | 610 142 101 | 72" | 12 AWG | Receiver, Single Ended | 510 160 106/107/111/112 |
| 7-251 912 000-036 | 610 143 101 | 36" | 12 AWG | ITA, Single Ended | 510 161 106/107/111 |
| 7-251 912 000-072 | 610 143 101 | 72" | 12 AWG | ITA, Single Ended | 510 161 106/107/111 |

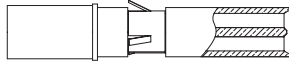
Micro Coaxial Contacts and Patchcords ▼

Contact Specifications

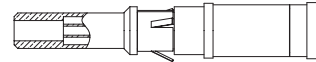
| | |
|---------------------------------------|---------------------------------------|
| Characteristic Impedance | 50 Ohm 75 Ohm • for RG 179 |
| Frequency Range | DC – 3 GHz DC – 1 GHz • for RG 179 |
| Contact Isolation | -90 dB minimum |
| VSWR | 1.22 @ 3 GHz |
| Mating Force | 1.5 lbs Max. [0.68 Kg] |
| Insertion Loss | – √f(GHz) x .06 dB |
| Dielectric Withstanding Voltage (DWV) | 800 V RMS |
| Cycle Life | 10,000 Cycles |



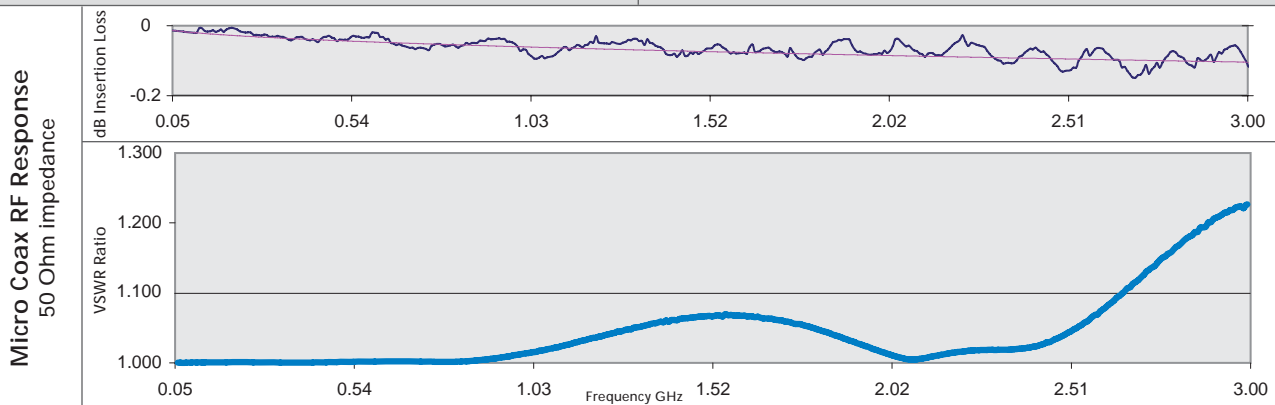
Micro Coaxial Contacts



Part # 610 140 XXX



Part # 610 141 XXX



| Part # | Contact Used | Length | Wire | Description | Used in Module |
|--------|--------------|--------|------|-------------|----------------|
|--------|--------------|--------|------|-------------|----------------|

MICRO COAXIAL RECEIVER CONTACTS

| | | | | | |
|-------------|------------------------------------------------|--|--|--|-------------------------|
| 610 140 101 | Micro Coaxial Contact, Receiver, RG 316, Crimp | | | | 510 160 106/107/111/112 |
| 610 140 102 | Micro Coaxial Contact, Receiver, RG 178, Crimp | | | | 510 160 106/107/111/112 |
| 610 140 103 | Micro Coaxial Contact, Receiver, RG 179, Crimp | | | | 510 160 106/107/111/112 |

MICRO COAXIAL ITA CONTACTS

| | | | | | |
|-------------|-------------------------------------------|--|--|--|---------------------|
| 610 141 101 | Micro Coaxial Contact, ITA, RG 316, Crimp | | | | 510 161 106/107/111 |
| 610 141 102 | Micro Coaxial Contact, ITA, RG 178, Crimp | | | | 510 161 106/107/111 |
| 610 141 103 | Micro Coaxial Contact, ITA, RG 179, Crimp | | | | 510 161 106/107/111 |

MICRO COAXIAL RECEIVER PATCHCORDS

| | | | | | |
|-------------------|-------------|-----|-------|----------------------------------------|-------------------------|
| 7-362 116 000-036 | 610 140 101 | 36" | RG316 | Receiver, Single Ended (3 GHz) | 510 160 106/107/111/112 |
| 7-364 178 000-036 | 610 140 102 | 36" | RG178 | Receiver, Single Ended (3 GHz) | 510 160 106/107/111/112 |
| 7-366 179 000-036 | 610 140 103 | 36" | RG179 | Receiver, Single Ended (1 GHz), 75 Ohm | 510 160 106/107/111/112 |

MICRO COAXIAL ITA PATCHCORDS

| | | | | | |
|-------------------|-------------|-----|-------|-----------------------------------|---------------------|
| 7-361 116 000-036 | 610 141 101 | 36" | RG316 | ITA, Single Ended (3 GHz) | 510 161 106/107/111 |
| 7-363 178 000-036 | 610 141 102 | 36" | RG178 | ITA, Single Ended (3 GHz) | 510 161 106/107/111 |
| 7-365 179 000-036 | 610 141 103 | 36" | RG179 | ITA, Single Ended (1 GHz), 75 Ohm | 510 161 106/107/111 |

Micro Power and Micro Coaxial Contact Tools ▼

Part # 910 101 102



Crimp Tool 910 101 102 and a Locator are used to crimp Micro Power contacts to 12 AWG wire.

Part # 910 101 131-RG178 • 910 101 132-RG179/316



Crimp tool is used to crimp the crimp ring to the contact of the Micro Coax contacts.

Part # 910 112 123



Extraction Tool is used to extract Receiver and ITA Micro Power and Micro Coax contacts.

Part # 910 121 179-Receiver
910 121 180-ITA



Inspection Depth Gauge is used to verify the depth setting of the center conductor of the Micro Coax contact.

| Part # | Description | Used in Contact |
|-------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| CRIMP TOOLS | | |
| 910 101 102 | Tool, Crimp, 10 Amp TriPaddle, Thermocouple and Micro Power Contacts, Receiver and ITA, Locator Required | 610 142 101 & 610 143 101 |
| 910 101 131 | Tool, Crimp, Micro Coaxial RG178, Receiver and ITA | 610 140 102 & 610 141 102 |
| 910 101 132 | Tool, Crimp, Micro Coaxial RG179 & RG316, Receiver and ITA | 610 140 101/103, 610 141 101/103 |
| 910 104 144 | Tool, Locator, Micro Power, ITA | 610 143 101 |
| 910 104 145 | Tool, Locator, Micro Power, Receiver | 610 142 101 |
| INSPECTION TOOLS | | |
| 910 121 179 | Tool, Inspection Depth Gage, Micro Coaxial, Receiver | 610 140 101/102/103 |
| 910 121 180 | Tool, Inspection Depth Gage, Micro Coaxial, ITA | 610 141 101/102/103 |
| EXTRACTION TOOL | | |
| 910 112 123 | Tool, Extraction, Micro Power/Micro Coaxial Contacts | 610 140 101/102/103, 610 141 101/102/103, 610 142 102 & 610 143 101 |

Visit vpc.com for complete instructions on how to use these tools.

75 Ohm HD Coaxial Patchcords and Contacts

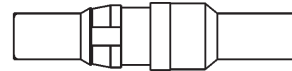
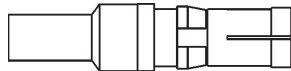
Contact Specifications

| | |
|---------------------------------------|-------------------------------------------------------|
| Characteristic Impedance | 75 Ohms |
| Frequency Range | DC to 2 GHz |
| Contact Resistance | Center contact – 5 mOhms Outer shield – 3 mOhms |
| Insertion Loss | >.5 dB @ 500 MHz |
| Dielectric Withstanding Voltage (DWV) | 800 VRMS |
| Operating Current | 3.0 Amp Max. Continuous |
| VSWR | ≤ 1.31 @ 2 GHz |
| Insulation Resistance | 1000 MOhms Min. |
| Contact Body | Female & Male Shield • Brass Center Contact • BeCu |
| Insertion/Extraction Force | 24 oz. Max. |
| Contact Plating | Center Conductor Shield • 50μ" Au over 100μ" Ni |



75 Ohm Coaxial Receiver Patchcord

75 Ohm Coaxial ITA Patchcord



Part # 610 102 133

Part # 610 102 132

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-----------------------------------------------|-----------------------------------------------------------------------------|--------|--------|------------------------|-----------------|
| 75 OHM HD COAXIAL RECEIVER CONTACT | | | | | |
| 610 102 133 | Coaxial Contact, Receiver, 75 Ohm HD, SM59/U, 2GHz, Crimp | | | | 510 160 114/115 |
| 75 OHM HD COAXIAL ITA CONTACT | | | | | |
| 610 102 132 | Coaxial Contact, ITA, 75 Ohm HD, SM59/U, 2GHz, Crimp | | | | 510 161 114/115 |
| 75 OHM HD COAXIAL RECEIVER AND ITA PATCHCORDS | | | | | |
| 7-412 873 000-036 | 610 102 133 | 36" | SM59/U | Receiver, Single Ended | 510 161 114/115 |
| 7-412 873 000-072 | 610 102 133 | 72" | SM59/U | Receiver, Single Ended | 510 161 114/115 |
| 7-411 873 000-036 | 610 102 132 | 36" | SM59/U | ITA, Single Ended | 510 160 114/115 |
| 7-411 873 000-072 | 610 102 132 | 72" | SM59/U | ITA, Single Ended | 510 160 114/115 |
| CRIMP TOOLS | | | | | |
| 910 104 139 | Tool, Hex Crimp for Outer Shield, 75 Ohm Coaxial, Receiver and ITA Contacts | | | | |
| EXTRACTION TOOL | | | | | |
| 910 112 117 | Tool, Extraction, for 75 Ohm and 20 GHz Receiver and ITA Contacts | | | | |

20 GHz Coaxial Patchcords and Contacts

Contact Specifications

| | |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Characteristic Impedence | 50 Ohms |
| Frequency Range | DC to 20 GHz |
| Insertion Loss | .06 x√f(GHz) dB |
| VSWR | 1.15 + .01 (f) GHz w/ SF142 (20 GHz) 1.25 for 2 - 18 GHz (w/ TF402) 1.30 for 18 - 20 GHz (w/ TF402) |
| Operating Current | 5 Amp DC Max. Continuous |
| Contact Isolation | > -90 dB over Frequency Range |
| Insertion Force | 4.0 lbs Max. |
| Dielectric Withstanding Voltage (DWV) | 800 V RMS Shield to center contact 1000 V RMS |
| Insulation Resistance | 2000 MOhms Min. |
| Contact Body | Female & Male Plug (RCV & ITA) – shield – Brass, center conductor – BeCu |
| Contact Plating | Male Plug (ITA) – 50μ" Au over 100μ" Ni; Female (RCV) – 50μ" Au over 100μ" Ni |



For applications where a more flexible cable is needed, use TFlex 402 cable and our solder contact. TFlex 402 cable has half the minimum bend radius as SF142. For situations where flexibility is not as important, we offer our crimp contact with SF142 cable.



20 GHz Coaxial Receiver Patchcord • SF142B

20 GHz Coaxial ITA Patchcord • SF142B



20 GHz Coaxial Receiver Patchcord • TFlex 402

20 GHz Coaxial ITA Patchcord • TFlex 402

| Part # | Contact Used | Length | Wire | Description | Used in Module |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------|--------|-----------|---------------------------------|-----------------|
| 20 GHz COAXIAL RECEIVER CONTACTS | | | | | |
| 610 102 109 | Coaxial Contact, Receiver, 20 GHz, Crimp/Clamp for SF142B, 20 GHz | | | | 510 160 114/115 |
| 610 102 119 | Coaxial Contact, Receiver, 20 GHz, Solder for TFlex 402, 20 GHz, available only in patchcords | | | | 510 160 114/115 |
| 20 GHz COAXIAL ITA CONTACTS | | | | | |
| 610 102 110 | Coaxial Contact, ITA, 20 GHz, Crimp/Clamp for SF142B, 20 GHz | | | | 510 161 114/115 |
| 610 102 118 | Coaxial Contact, ITA, 20 GHz, Solder for TFlex 402, 20 GHz, available only in patchcords | | | | 510 161 114/115 |
| 20 GHz COAXIAL RECEIVER AND ITA PATCHCORDS | | | | | |
| 7-384 143 000-036 | 610 102 109 | 36" | SF142B | Receiver, Single Ended (20GHz) | 510 160 114/115 |
| 7-384 143 000-072 | 610 102 109 | 72" | SF142B | Receiver, Single Ended (20GHz) | 510 160 114/115 |
| 7-388 102 000-036 | 610 102 119 | 36" | TFlex 402 | Receiver, Single Ended (20 GHz) | 510 160 114/115 |
| 7-388 102 000-072 | 610 102 119 | 72" | TFlex 402 | Receiver, Single Ended (20 GHz) | 510 160 114/115 |
| 7-383 143 000-036 | 610 102 110 | 36" | SF142B | ITA, Single Ended (20GHz) | 510 161 114/115 |
| 7-383 143 000-072 | 610 102 110 | 72" | SF142B | ITA, Single Ended (20GHz) | 510 161 114/115 |
| 7-387 102 000-036 | 610 102 118 | 36" | TFlex 402 | ITA, Single Ended (20 GHz) | 510 161 114/115 |
| 7-387 102 000-072 | 610 102 118 | 72" | TFlex 402 | ITA, Single Ended (20 GHz) | 510 161 114/115 |



Twinaxial Contacts and Patchcords ▼

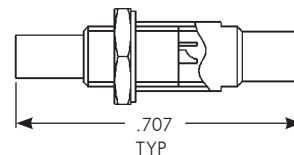
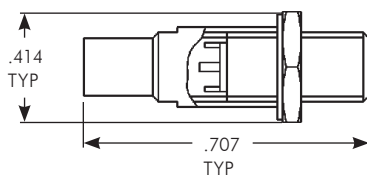
Contact Specifications

| | |
|-------------------------------|-----------------------------------------------------------------------------------------------------|
| Operating Voltage and Current | 30 Amp Max. Continuous (480 RMS) |
| Contact Resistance | Center contact is < 6.5 mOhms; Intermediate contact is < 3 Ohms; Outer contact is < 3.5 mOhms |
| Insertion Loss | 0.044 dB @ 0.2 GHz |
| Maximum VSWR | Approximately 1.1:1 @ 100 MHz |
| Insulation Resistance | 106 mOhms min. |
| Mating Force | 3.5 lbs Max. [1.58 Kg] |
| Contact Body | Outer Shell • Brass Inner Shield • Bronze Male Contact • Brass |
| Contact Plating | 40 μ " Au over 130 μ " Ni |



Twinaxial Receiver Patchcord

Twinaxial ITA Patchcord



Part # 610 113 144

Part # 610 113 145

| Part # | Contact Used | Length | AWG | Description | Used in Module |
|----------------------------------------------|-----------------------------|--------|-------------------|------------------------|----------------|
| TWINAXIAL RECEIVER CONTACT | | | | | |
| 610 113 144 | Twinaxial Contact, Receiver | | | | 510 160 109 |
| TWINAXIAL ITA CONTACT | | | | | |
| 610 113 145 | Twinaxial Contact, ITA | | | | 510 161 109 |
| TWINAXIAL RECEIVER AND ITA PATCHCORDS | | | | | |
| 7-402 423 000-036 | 610 113 144 | 36" | 22 AWG T/P shield | Receiver, Single Ended | 510 160 109 |
| 7-402 423 000-072 | 610 113 144 | 72" | 22 AWG T/P shield | Receiver, Single Ended | 510 160 109 |
| 7-401 423 000-036 | 610 113 145 | 36" | 22 AWG T/P shield | ITA, Single Ended | 510 161 109 |
| 7-401 423 000-072 | 610 113 145 | 72" | 22 AWG T/P shield | ITA, Single Ended | 510 161 109 |

Thermocouple Contacts, Patchcords and Tools ▼

Contact Specifications

| | |
|-----------------------------|--------------------------------------------|
| ANSI Type | K |
| Thermocouple Pair Materials | Chromel® Alumel® |
| Polarity | +/- |
| Material Type | Base |
| TC Temperature Range | Chromel® & Alumel® • -200° C to 1250° C |
| EMF (mV) | -5.97 to +50.63 |



Thermocouple Receiver Patchcord

Thermocouple ITA Patchcord

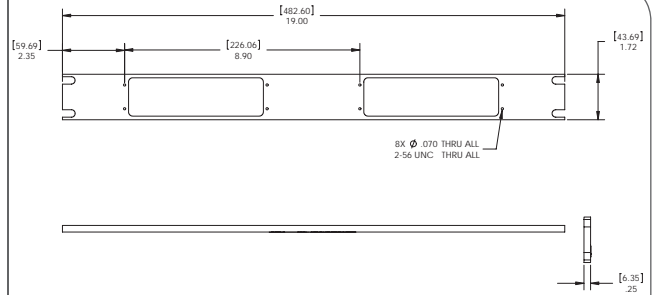


Part # 610 113 131

Part # 610 113 133

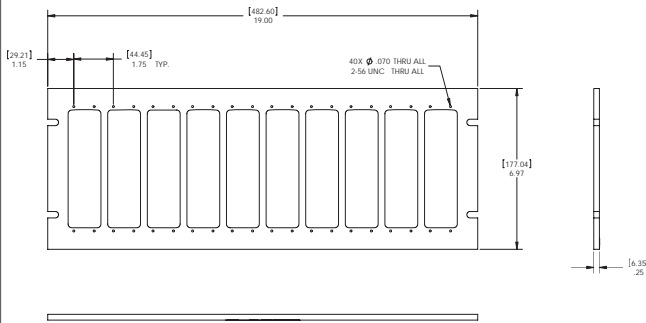
| Part # | Contact Used | Length | AWG | Description | Used in Module |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------|--------|-----|------------------------------------------|----------------|
| THERMOCOUPLE RECEIVER CONTACTS | | | | | |
| 610 113 131 | Thermocouple Contact, Receiver, Chromel | | | | 510 160 110 |
| 610 113 132 | Thermocouple Contact, Receiver, Alumel | | | | 510 160 110 |
| THERMOCOUPLE ITA CONTACTS | | | | | |
| 610 113 133 | Thermocouple Contact, ITA, Chromel | | | | 510 161 110 |
| 610 113 134 | Thermocouple Contact, ITA, Alumel | | | | 510 161 110 |
| THERMOCOUPLE RECEIVER PATCHCORDS | | | | | |
| 7-410 803 000-036 | 610 113 131 & 610 110 132 | 36" | 20 | Receiver, Chromel & Alumel, Single Ended | 510 160 110 |
| 7-410 803 000-072 | 610 113 131 & 610 110 132 | 72" | 20 | Receiver, Chromel & Alumel, Single Ended | 510 160 110 |
| THERMOCOUPLE ITA PATCHCORDS | | | | | |
| 7-409 803 000-036 | 610 113 133 & 610 110 134 | 36" | 20 | Receiver, Chromel & Alumel, Single Ended | 510 161 110 |
| 7-409 803 000-072 | 610 113 133 & 610 110 134 | 36" | 20 | Receiver, Chromel & Alumel, Single Ended | 510 161 110 |
| TOOLS | | | | | |
| 910 101 102 | Tool, Crimp, 10 Amp TriPaddle, Thermocouple and Micro Power Contacts, Receiver and ITA, Locator Required | | | | |
| 910 104 134 | Tool, Locator, Thermocouple, Receiver | | | | |
| 910 104 135 | Tool, Locator, Thermocouple, ITA | | | | |
| 910 110 102 | Tool, Extraction, TriPaddle and Thermocouple, Receiver and ITA | | | | |

NOTE: The Chromel-Alumel thermocouple, with a positive Chromel wire and a negative Alumel wire, is recommended for use in clean oxidizing atmospheres.



The 1U Fixed Mounting Frame has 2 horizontal positions. Also available in black anodized (310 113 488). iCon cover plate sold separately (310 113 467-gray, 310 113 490-black).

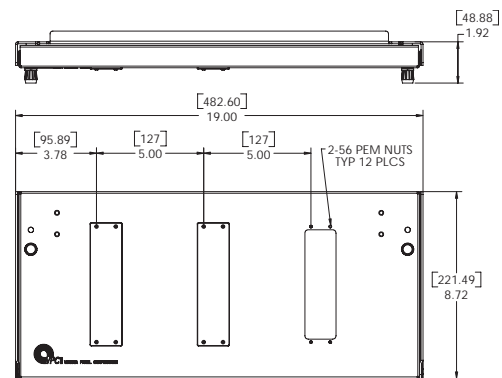
► Fixed Mounting Frame, iCon, 1U, 2 Positions • Part # 310 113 491



The 4U Fixed Mounting Frame has 10 vertical positions. Also available in black anodized 310 113 486. iCon cover plate sold separately (310 113 467-gray, 310 113 490-black).

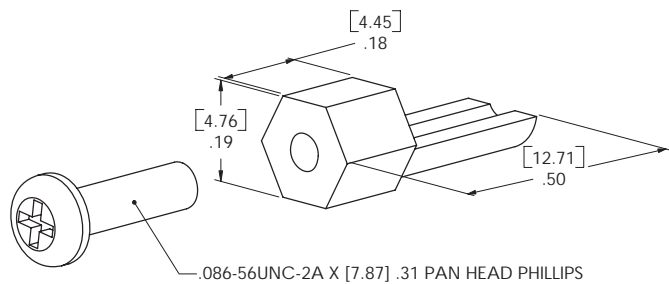


► Fixed Mounting Frame, iCon, 4U, 10 Positions • Part # 310 113 492



The 5U Vertical Hinged Mounting Frame mounts to standard 19" racks and hinges open to allow access to wiring between the instruments and VPC Receiver. The 3 cutouts are spaced evenly across the panel. iCon cover plate sold separately 310 113 467.

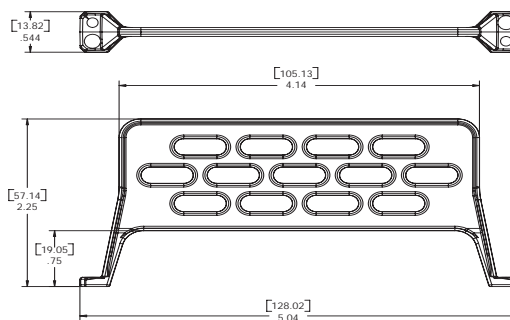
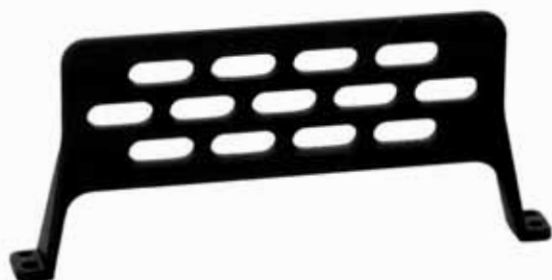
► Vertical Hinged Mounting Frame, iCon, 5U, 3 Positions • Part # 310 113 463



The iCon keying pin kit includes 1 set of 2 hex keys. One set will allow 6 different options and 2 sets can provide 36 different keying options. The keying kit provides a way to isolate your connectors to prevent operational mismatch.

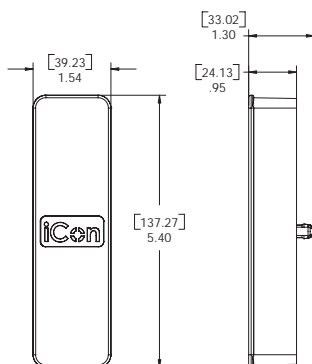


► Keying Pin Kit, iCon, Receiver and ITA • Part # 310 113 461

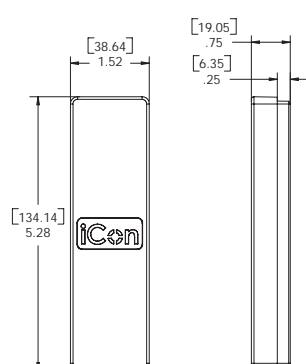


The strain relief attaches to the wiring side of the iCon receiver and can be secured before receiver installation. The strain relief is made of black powder-coated aluminum. Six wire ties and mounting hardware included.

► Strain Relief, iCon, Receiver • Part # 310 113 456



The Receiver protective cover is designed to protect your modules and contacts while the test system is not in use. A protective cover is included with the iCon Receiver.



The ITA protective cover is designed to protect your modules and contacts when the ITA is not engaged. A protective cover is included with the iCon ITA.



► Replacement Protective Covers, iCon: Receiver, Part # 310 113 460 • ITA, Part # 410 112 750

High I/O with QuadraPaddle Technology • iCon960 ▼

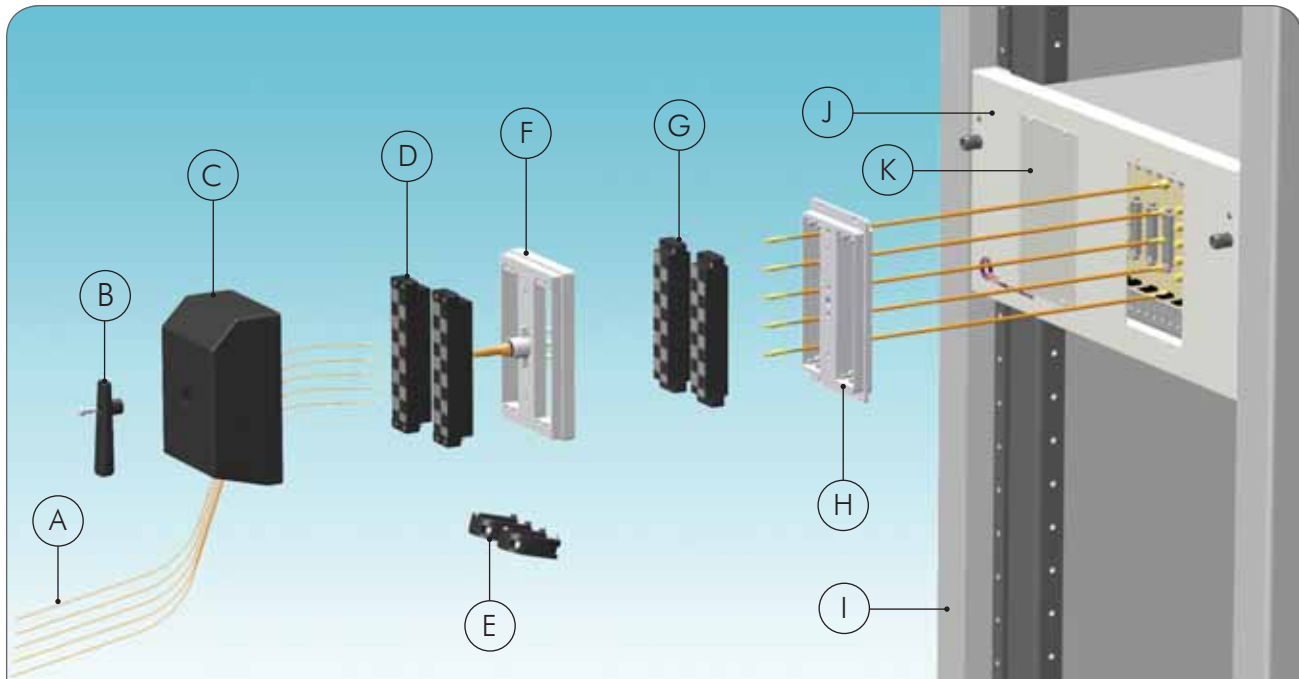
The iCon960 is the next step up for higher I/O requirements. With two 480 QuadraPaddle modules included, this iCon provides 960 signal contacts for both PCB and discrete wiring. The precision engagement mechanism is the same as the standard iCon, providing reliable connections test after test.

Two 480 Signal QuadraPaddle Modules Included



iCon960

For more information, visit vpc.com/iCon960



- | | | |
|----------------------|----------------------|-----------------------------------|
| A. ITA Patchcords | E. U-shaped Clamp | I. Rack With Instruments |
| B. Engagement Handle | F. iCon960 ITA Frame | J. Vertical Hinged Mounting Frame |
| C. iCon960 Enclosure | G. Receiver Modules | K. iCon960 Cover Plate |
| D. ITA Modules | H. iCon960 Receiver | |

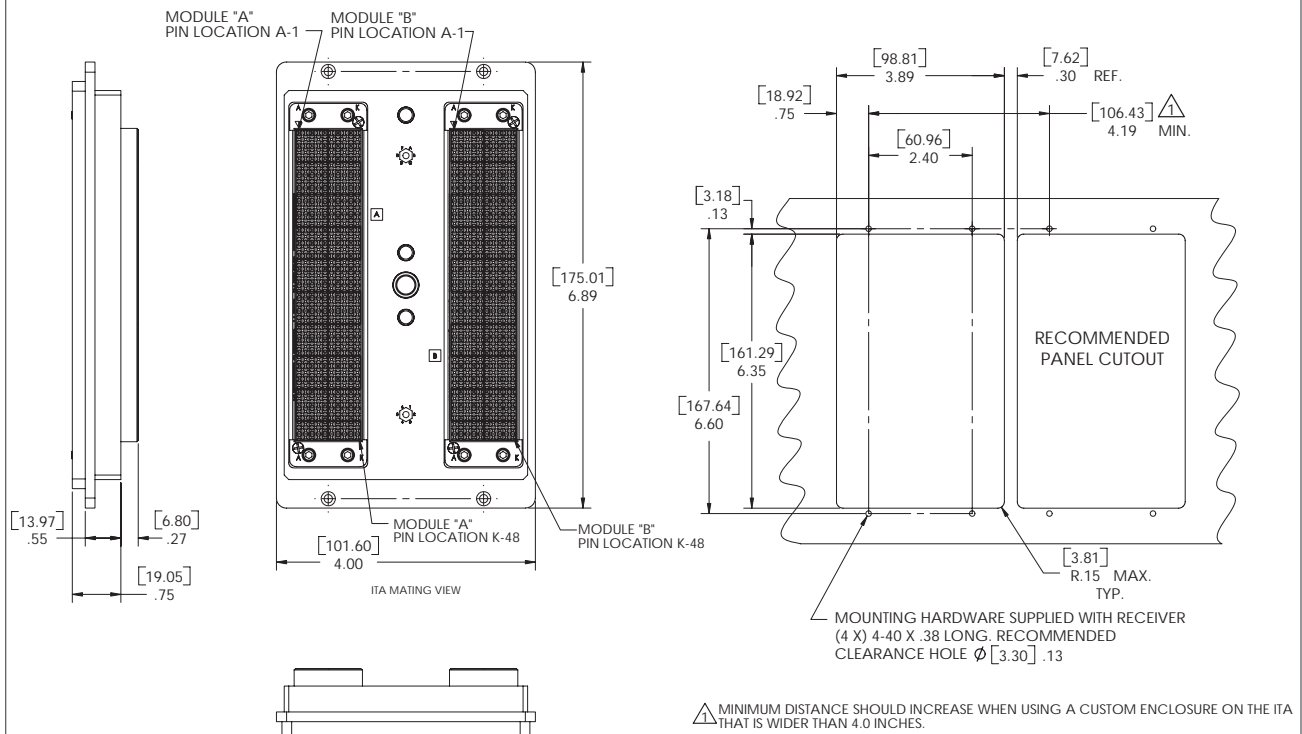
| Part # | Description |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| RECEIVER | |
| 310 124 102* | Receiver, iCon960 (G) (H) Includes two 480 Position Quadrapaddle Receiver Fully Loaded with Round Posts, Part # 510 150 135 |
| 310 124 103* | Receiver, iCon960 (G) (H) Includes two 480 Position Quadrapaddle Receiver Wire Crimp Modules, Part # 510 150 116 |
| 310 124 105* | Receiver, iCon960, two 192 Position Quadrapaddle Modules (510 150 115) and two 96 Position TriPaddle Modules (510 104 136) |
| ITA | |
| 410 124 103* | ITA, iCon960, two Quadrapaddle Modules (510 151 108), Fully Loaded with Round Posts for PCB Mounting |
| 410 124 104* | ITA, iCon960 includes (B) (D) (F) Includes two 480 Position Quadrapaddle ITA Modules, Part # 510 151 106 |
| 410 124 105* | ITA, iCon960, two 192 Position Quadrapaddle Modules (510 151 105) and two 96 Position TriPaddle Modules (510 108 126) |
| ACCESSORIES | |
| 310 113 465 | Vertical Hinged Mounting Frame, iCon960, 5U, 2 Positions (J) |
| 310 113 466 | Cover Plate, iCon960 (K) |
| 310 113 489 | Protective Cover, iCon960, Receiver |
| 410 112 775 | Enclosure, iCon960, with 2 Cable Clamps (C) (E) |
| 410 112 804 | Protective Cover, iCon960, ITA |

*Other module types are available for the iCon960. Please contact VPC for more information.

For more information, visit vpc.com/iCon960



iCon960 Receiver ▼



► Receiver, iCon960 • Part # 310 124 103

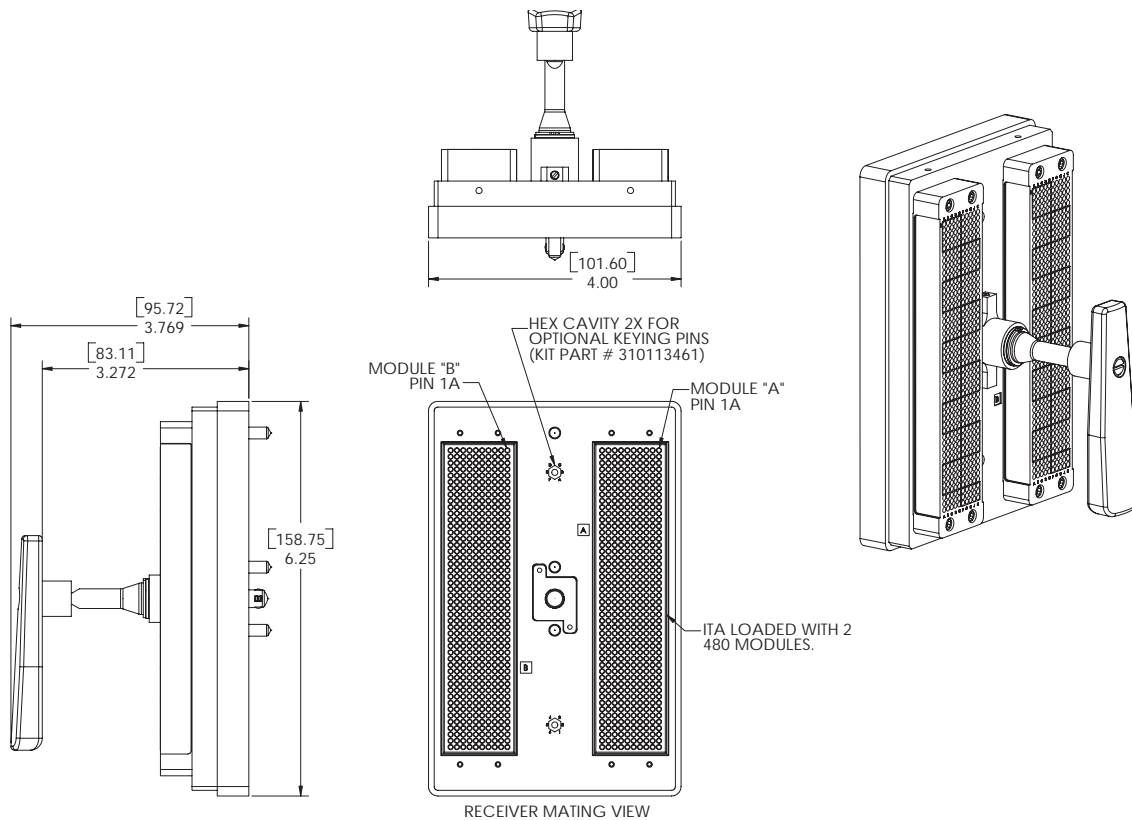
Receiver Specifications

| | |
|-------------------|------------------------------|
| Weight | 1.3 lbs. [.58 Kg] |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware Material | Stainless Steel Alloy |
| Modules Included | 510 150 116 (2) |
| Cycle Life | 5,000 |
| Temperature | -55° C to 100° C |



iCon960 includes two 480 position modules to allow a maximum I/O of 960. Receiver is PCB capable.

iCon960 ITA ▼



► ITA, iCon960 • Part # 410 124 104

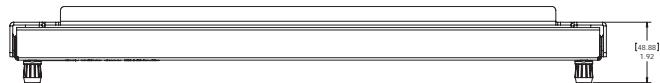
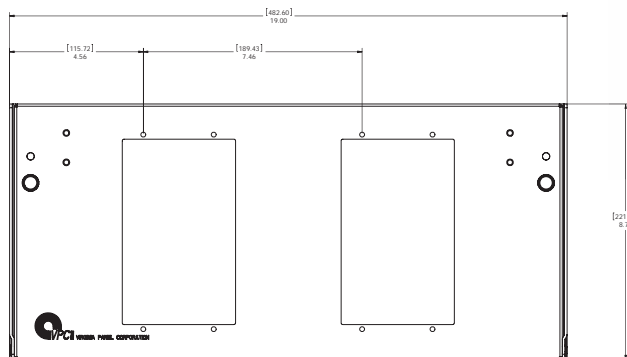


ITA Specifications

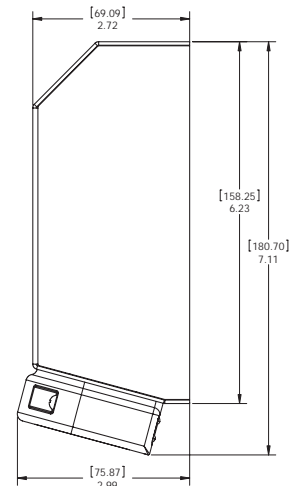
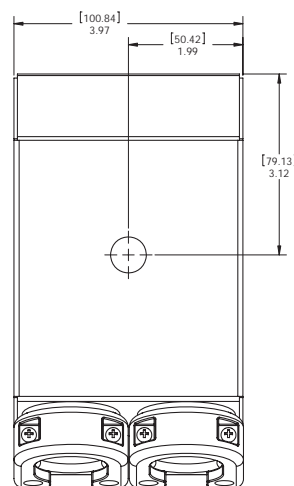
| | |
|------------------|--------------------------------------|
| Weight | 1.3 lbs. [.58 Kg] |
| Frame Material | Nickel Plated Aluminum Alloy |
| Hardware | Stainless Steel Alloy |
| Drive Unit | Beryllium Copper and Stainless Steel |
| Modules Included | 510 151 106 (2) |
| Cycle Life | 5,000 |
| Temperature | -55° C to 100° C |

The iCon960 ITA uses the same half-turn quick cam engagement mechanism as the standard iCon Rack & Panel connectors.

The 5U Vertical Hinged Mounting Frame mounts to standard 19" racks and hinges open to allow access to wiring between the instruments and VPC Receiver. The 2 cutouts are spaced evenly across the panel. iCon960 cover plate sold separately 310113466.



► Vertical Hinged Mounting Frame, iCon960, 5U, 2 Positions • Part # 310 113 465

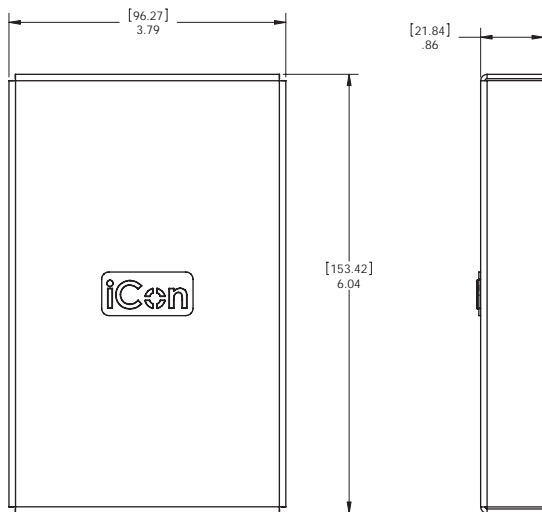


Please see our **Tech Tip** on page 57 for more information.

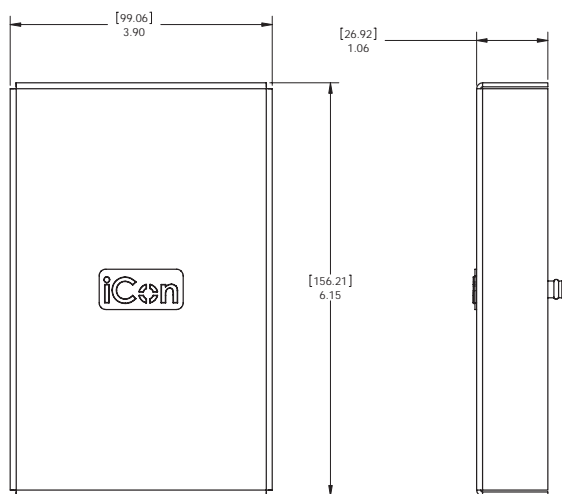
The standard iCon960 enclosure has two U-shaped cable clamps that allow a maximum cable bundle of 1.55" diameter per clamp.

► Enclosure, iCon960 with 2 Cable Clamps • Part # 410 112 775

The ITA protective cover is designed to protect your modules when the ITA is not engaged.



► Protective Cover, iCon960, ITA • Part # 410 112 804



The receiver protective cover is designed to protect your modules and contacts while the test system is not in use.

► Protective Cover, iCon960, Receiver • Part # 310 113 489



Cable Bundle Wire Information for iCon & iCon960



A formula to calculate the maximum number of wires recommended for a cable bundle is shown below. Using this formula, the table below shows a sampling of the maximum number of wires that will fit in the oblong bushing.

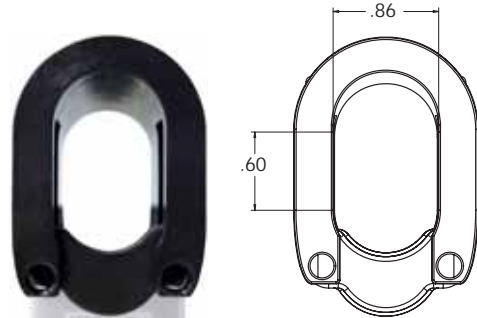
iCon:

Formula to calculate approximate number of wires in a cable bundle:

$$N = (1.21/d - 1)^2(.907)$$

| | | |
|----------------|----------------------------------------------------|------------------------------|
| N = # of Wires | 1.21 = Inside Diameter of Converted Oblong Bushing | d = Outside Diameter of Wire |
|----------------|----------------------------------------------------|------------------------------|

Oblong Bushing Effective Diameter* = 1.21"



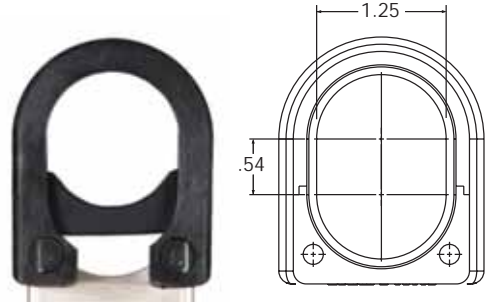
iCon with Large Cable Clamp & iCon960:

Formula to calculate approximate number of wires in a cable bundle:

$$N = (1.55/d - 1)^2(.907)$$

| | | |
|----------------|----------------------------------------------------|------------------------------|
| N = # of Wires | 1.55 = Inside Diameter of Converted Oblong Bushing | d = Outside Diameter of Wire |
|----------------|----------------------------------------------------|------------------------------|

Oblong Bushing Effective Diameter* = 1.55"



* Oblong Opening Area Converted to Simple Diameter

| Wire Type | Outside Diameter | iCon # of Wires | Large iCon # of Wires | iCon 960 # of Wires |
|------------------------|------------------|--------------------|--------------------------|------------------------|
| 20 AWG Signal – Teflon | .057 | 371 | 622 | 1244 |
| 10 AWG Power – PVC | .142 | 51 | 89 | 178 |
| RG316 Coaxial – 50 Ohm | .098 | 116 | 199 | 398 |

NOTE: Addition of shrink tubing or braid will reduce maximum number of wires through bushing.

NOTE: If the wiring bundle is too small to secure with the adjustable bushing, remove the clamp assembly within the bushing by removing the two adjustment screws. Reverse the direction of the clamp assembly and secure with the two screws. This provides a reduced diameter within the bushing and allows smaller wire bundles to be held securely.

iCon PCB Mounting Overview ▼

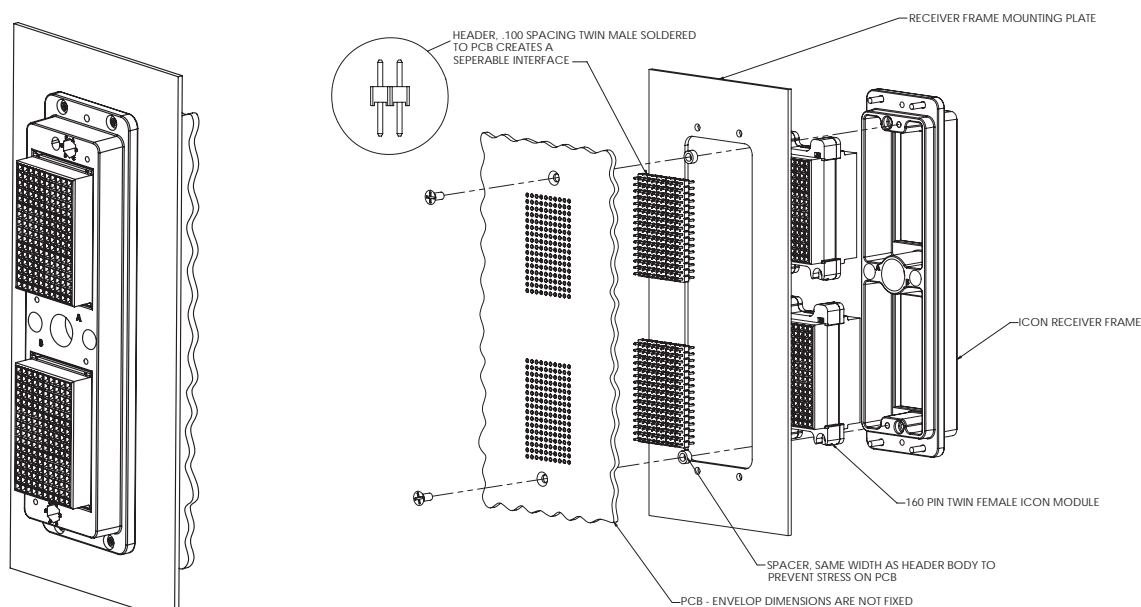


Figure A. iCon Receiver with two 160 pin QuadraPaddle modules. Each module is loaded with twin female contacts, Part # 610 138 100. Each module has twin male headers connecting the female contacts to the PCB plated thru holes.

Figure B. A PCB can be mounted directly to the back of an iCon Receiver as shown above. Use 2 x 4-40 screws (flathead shown) to mount to the Receiver frame. When using twin male headers, spacers may be needed to prevent unwanted stress on the PCB.

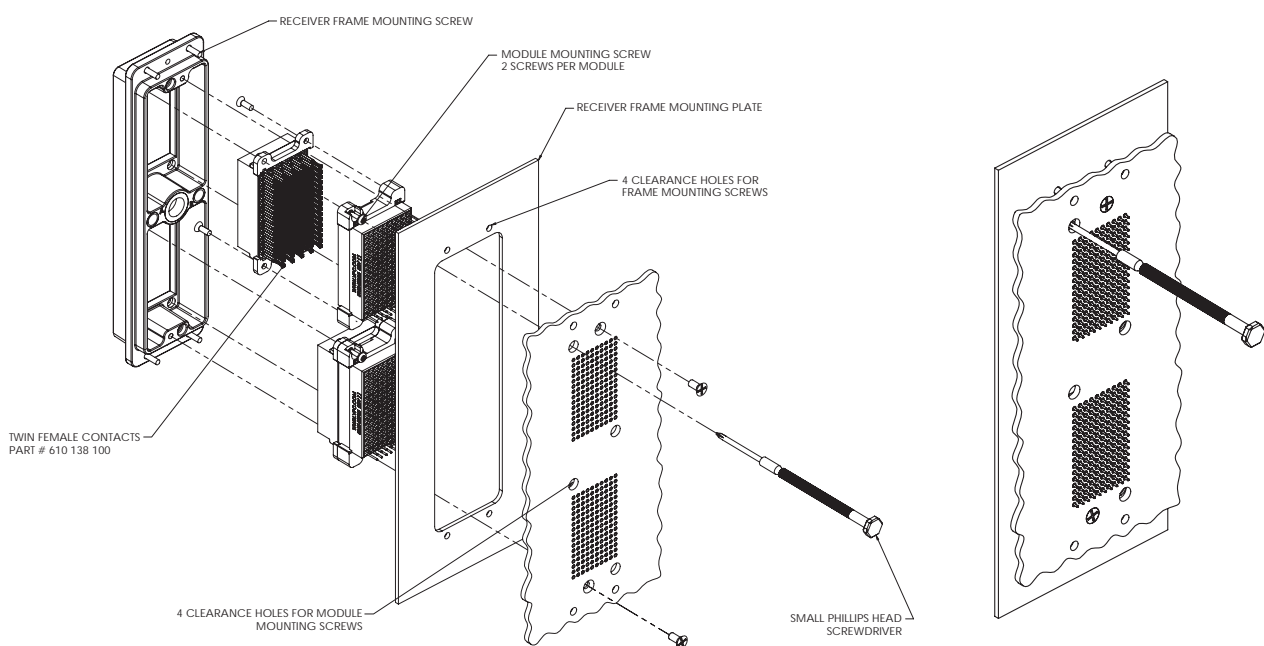


Figure C. Additional hole cutouts shown allow access to the module mounting screws. The user can remove the PCB and modules without de-soldering the individual solder tails. Additional clearance holes allow frame mounting screws to protrude without interfering with PCB.

iCon PCB Mounting Overview ▼

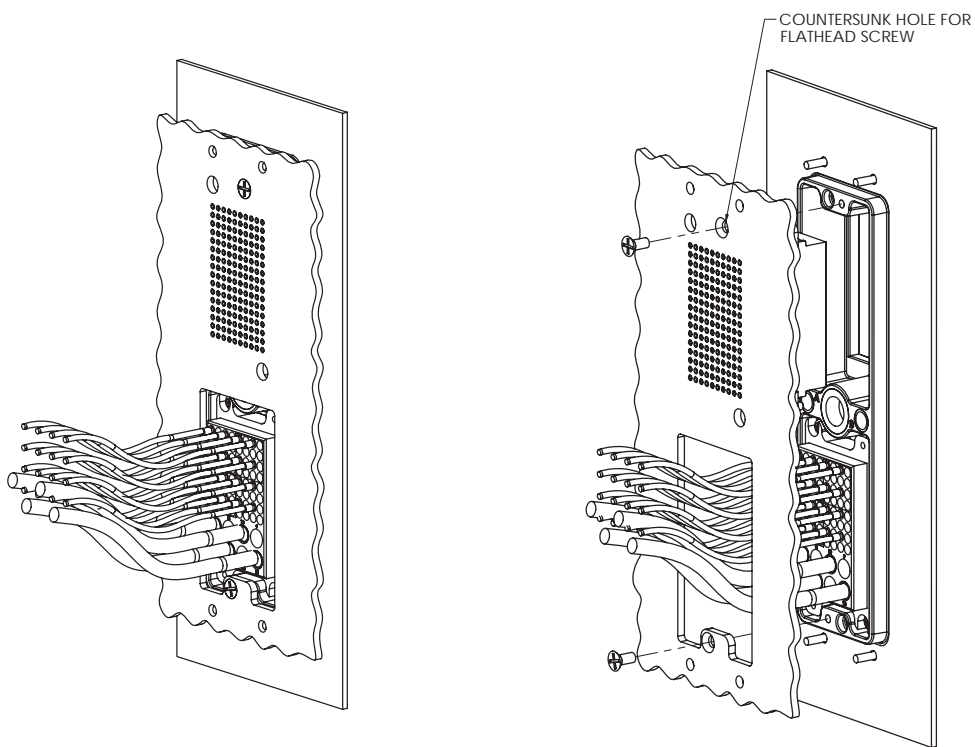


Figure D. User can use flathead screws to mount the PCB as shown. This can be done when no strain relief is required.

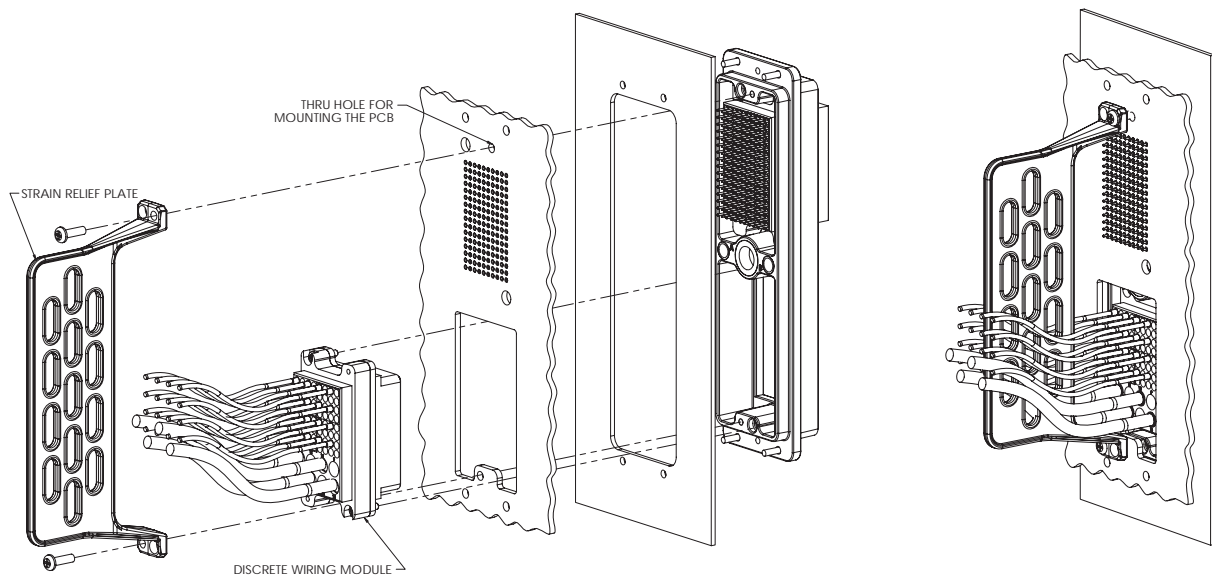


Figure E. A strain relief plate, Part # 310 113 456 can be used with a PCB as shown. To do this put thru holes on the PCB and use a 4-40 pan head screw.

Cross Reference for Receiver Contacts and Receiver Modules

| RECEIVER CONTACTS | RECEIVER MODULES | | | | | | | | | | | | | |
|-------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 510 160 101 | 510 160 102 | 510 160 103 | 510 160 104 | 510 160 105 | 510 160 106 | 510 160 107 | 510 160 108 | 510 160 109 | 510 160 110 | 510 160 111 | 510 160 112 | 510 160 114 | 510 160 115 |
| 610 102 109 | | | | | | | | | | | | | X | X |
| 610 102 119 | | | | | | | | | | | | | X | X |
| 610 102 133 | | | | | | | | | | | | | X | X |
| 610 104 114 | | X | X | X | | | | | | | | | | |
| 610 104 140 | | X | X | X | | | | | | | | | | |
| 610 104 141 | | X | X | X | | | | | | | | | | |
| 610 104 142 | | X | X | X | | | | | | | | | | |
| 610 110 101 | | | X | | | | | X | X | | X | | | X |
| 610 110 104 | | | X | | | | | X | X | | X | | | X |
| 610 110 128 | | | X | | | | | X | X | | X | | | X |
| 610 110 167 | | | X | | | | | X | X | | X | | | X |
| 610 113 131 | | | | | | | | | | X | | | | |
| 610 113 132 | | | | | | | | | | X | | | | |
| 610 113 144 | | | | | | | | | X | | | | | |
| 610 116 112 | | X | X | X | | | | | | | | | | |
| 610 116 124 | | X | X | X | | | | | | | | | | |
| 610 116 125 | | X | X | X | | | | | | | | | | |
| 610 131 108 | | X | X | X | | | | | | | | | | |
| 610 138 100 | | | | | X | | | | | | | X | | |
| 610 138 116 | X | X | | | | | X | | | | | | | |
| 610 138 117* | | | | | X | | | | | | | X | | |
| 610 138 118* | | | | | X | | | | | | | X | | |
| 610 140 101 | | | | | | X | X | | | | X | X | | |
| 610 140 102 | | | | | | X | X | | | | X | X | | |
| 610 140 103 | | | | | | X | X | | | | X | X | | |
| 610 142 101 | | | | | | X | X | | | | X | X | | |
| 610 142 102 | | | | | | X | X | | | | X | X | | |

Cross Reference for Receiver Contacts and Tools ▼

| RECEIVER CONTACTS | CRIMP TOOLS AND LOCATORS | | | | | | | | | | | | | | | EXTRACTION | | | | | MISCELLANEOUS | | | | | | | | | |
|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| | 910 101 102 | 910 101 103 | 910 101 115 | 910 101 124 | 910 101 125 | 910 101 131 | 910 101 132 | 910 102 106 | 910 104 107 | 910 104 116 | 910 104 127 | 910 104 134 | 910 104 139 | 910 104 145 | 910 110 102 | 910 110 112 | 910 112 104 | 910 112 117 | 910 112 123 | 910 121 119 | 910 121 131 | 910 121 143 | 910 121 144 | 910 121 149 | 910 121 156 | 910 121 160 | 910 121 167 | 910 121 179 | | |
| 610 102 109 | | | | X | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| 610 102 133 | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | |
| 610 104 114 | | | X | | | | | | | | | | | | | | X | | | X | X | X | | | | X | | | | |
| 610 104 140 | | | | | | | | | | | | | | | | | X | | | | X | | | | | X | | | | |
| 610 104 141 | | | X | | | | | | | | | | | | | | X | | | X | X | X | | | | X | | | | |
| 610 104 142 | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | X | X | X | | |
| 610 110 101 | | X | | | | | | | | | X | | | | X | | | | | | | | | | | | | | | |
| 610 110 104 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| 610 110 128 | X | | | | | | | | | X | | | | | X | | | | | | | | | | | | | | | |
| 610 110 167 | | X | | | | | | | | | X | | | | X | | | | | | | | | | | | | | | |
| 610 113 131 | X | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | |
| 610 113 132 | X | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | |
| 610 113 144 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 610 116 112 | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 610 116 124 | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 610 116 125 | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 610 131 108 | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 610 138 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 610 138 116 | | | | | X | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 610 138 117* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 610 138 118* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 610 140 101 | | | | | | | X | | | | | | | | | | | | X | | | | | | | | | | X | |
| 610 140 102 | | | | | | X | | | | | | | | | | | | | X | | | | | | | | | | X | |
| 610 140 103 | | | | | | | X | | | | | | | | | | | | X | | | | | | | | | | X | |
| 610 142 101 | X | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | |
| 610 142 102 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |

* Must be used with 610 138 100

Cross Reference for ITA Contacts and ITA Modules ▼

| ITA CONTACTS | ITA MODULES | | | | | | | | | | | |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 510 161 101 | 510 161 102 | 510 161 103 | 510 161 104 | 510 161 106 | 510 161 107 | 510 161 108 | 510 161 109 | 510 161 110 | 510 161 111 | 510 161 114 | 510 161 115 |
| 610 102 110 | | | | | | | | | | | X | X |
| 610 102 118 | | | | | | | | | | | X | X |
| 610 102 132 | | | | | | | | | | | X | X |
| 610 103 115 | | X | X | X | | | | | | | | |
| 610 103 129 | | X | X | X | | | | | | | | |
| 610 103 130 | | X | X | X | | | | | | | | |
| 610 103 136 | | X | X | X | | | | | | | | |
| 610 103 140 | | X | X | X | | | | | | | | |
| 610 103 150 | | X | X | X | | | | | | | | |
| 610 103 161 | | X | X | X | | | | | | | | |
| 610 110 108 | | | X | | | | X | X | | X | | X |
| 610 110 113 | | | X | | | | X | X | | X | | X |
| 610 110 129 | | | X | | | | X | X | | X | | X |
| 610 110 169 | | | X | | | | X | X | | X | | X |
| 610 113 133 | | | | | | | | | X | | | |
| 610 113 134 | | | | | | | | | X | | | |
| 610 113 145 | | | | | | | | X | | | | |
| 610 115 124 | | X | X | X | | | | | | | | |
| 610 115 125 | | X | X | X | | | | | | | | |
| 610 115 127 | | X | X | X | | | | | | | | |
| 610 115 128 | | X | X | X | | | | | | | | |
| 610 115 129 | | X | X | X | | | | | | | | |
| 610 115 130 | | X | X | X | | | | | | | | |
| 610 132 106 | | X | X | X | | | | | | | | |
| 610 138 109 | X | X | | | | X | | | | | | |
| 610 138 111 | X | X | | | | X | | | | | | |
| 610 138 112 | X | X | | | | X | | | | | | |
| 610 138 115 | X | X | | | | X | | | | | | |
| 610 141 101 | | | | | X | X | | | | X | | |
| 610 141 102 | | | | | X | X | | | | X | | |
| 610 141 103 | | | | | X | X | | | | X | | |
| 610 143 101 | | | | | X | X | | | | X | | |

Cross Reference for ITA Contacts and Tools ▼

| ITA CONTACTS | CRIMP TOOLS AND LOCATORS | | | | | | | | | | | | | | EXTRACTION | | | | | MISCELLANEOUS | | | | | | | | | | |
|-----------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|
| | 910 101 102 | 910 101 103 | 910 101 115 | 910 101 118 | 910 101 124 | 910 101 131 | 910 101 132 | 910 102 107 | 910 104 107 | 910 104 118 | 910 104 128 | 910 104 135 | 910 104 139 | 910 104 140 | 910 104 144 | 910 110 102 | 910 110 111 | 910 112 104 | 910 112 117 | 910 112 123 | 910 121 126 | 910 121 142 | 910 121 144 | 910 121 149 | 910 121 155 | 910 121 157 | 910 121 160 | 910 121 167 | 910 121 180 | |
| 610 102 110 | | | | | X | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 102 132 | | | | | | | | | | | | | X | | | | | | X | | | | | | | | | | | |
| 610 103 115 | | | X | | | | | | | | | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 103 129 | | | | | | | | | | | | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 103 130 | | | X | | | | | | | | | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 103 136 | | | | X | | | | | | | X | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 103 140 | | | | | | | | | | | | | | | | | | X | | | | X | X | X | X | X | X | X | X | X |
| 610 103 150 | | | | | | | | | | | | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 103 161 | | | X | X | | | | | | | X | | | | | | | X | | | | X | X | | | X | X | | | |
| 610 110 108 | | X | | | | | | | X | | | | | | | | X | | | | | | | | | | | | | |
| 610 110 113 | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| 610 110 129 | X | | | | | | | | | X | | | | | | | X | | | | | | | | | | | | | |
| 610 110 169 | | X | | | | | | | X | | | | | | | | X | | | | | | | | | | | | | |
| 610 113 133 | X | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| 610 113 134 | X | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| 610 113 145 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 610 115 124 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 115 125 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 115 127 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 115 128 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 115 129 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 115 130 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 132 106 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| 610 138 109 | | X | | | | | | | | | | | | X | | | | X | | | | | | | | | | | | |
| 610 138 111 | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| 610 138 112 | | X | | | | | | | | | | | | X | | | | X | | | | | | | | | | | | |
| 610 138 115 | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| 610 141 101 | | | | | | | X | | | | | | | | | | | | | | X | | | | | | | | | X |
| 610 141 102 | | | | | | X | | | | | | | | | | | | | | | X | | | | | | | | | X |
| 610 141 103 | | | | | | | X | | | | | | | | | | | | | | X | | | | | | | | | X |
| 610 143 101 | X | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | |

| Part # | Description | Page Number |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|-------------|
| 310 113 456 | Strain Relief, iCon, Receiver..... | 11, 16, 50 |
| 310 113 460 | Replacement Protective Cover, iCon, Receiver..... | 11, 16, 50 |
| 310 113 461 | Keying Pin Kit, iCon, Receiver and ITA | 11, 16, 50 |
| 310 113 463 | Vertical Hinged Mounting Frame, iCon, 5U, 3 Positions | 11, 16, 49 |
| 310 113 465 | Vertical Hinged Mounting Frame, iCon960, 5U, 2 Positions | 52, 55 |
| 310 113 466 | Cover Plate, iCon960, for Vertical Hinged Mounting Frame | 52 |
| 310 113 467 | Cover Plate, iCon, for Vertical Hinged Mounting Frame | 11, 16 |
| 310 113 489 | Protective Cover, iCon960, Receiver | 52, 56 |
| 310 113 491 | Fixed Mounting Frame, iCon, 1U, 2 Positions..... | 11, 16, 49 |
| 310 113 492 | Fixed Mounting Frame, iCon, 4U, 10 Positions..... | 11, 49 |
| 310 123 101 | Receiver, iCon | 11, 12 |
| 310 123 102 | Receiver, iCon, EMI Shielded | 16, 17 |
| 310 124 102 | Receiver, iCon960, 2 QuadraPaddle Modules, Fully Loaded with Round Posts (510 150 135) | 52 |
| 310 124 103 | Receiver, iCon960, 2 QuadraPaddle Receiver Wire Crimp Modules (510 150 116) | 52, 53 |
| 310 124 105 | Receiver, iCon960, 2 192 Position QuadraPaddle Modules (510 150 115) and 2 96 Position TriPaddle Modules (510 104 136) | 52 |
| 410 112 750 | Replacement Protective Cover, iCon, ITA | 11, 16, 50 |
| 410 112 775 | Enclosure, iCon960, 2 Cable Clamps | 52, 55 |
| 410 112 804 | Protective Cover, iCon960, ITA..... | 52, 56 |
| 410 123 101 | ITA, iCon | 11, 13 |
| 410 123 102 | ITA, iCon, EMI Shielded | 16, 18 |
| 410 123 106 | ITA, iCon, with Large Cable Clamp..... | 11, 14 |
| 410 124 103 | ITA, iCon960, 2 QuadraPaddle Modules (510 151 108), Fully Loaded with Round Posts for PCB Mounting | 52 |
| 410 124 104 | ITA, iCon960, 2 QuadraPaddle Modules (510 151 106), Unloaded for Discrete Wiring | 52, 54 |
| 410 124 105 | ITA, iCon960, 2 192 Position QuadraPaddle Modules (510 151 105) and 2 96 Position TriPaddle Modules (510 108 126)..... | 52 |
| 510 160 101 | Signal Module, Receiver, QuadraPaddle, iCon, 160 Position, for Crimp Contacts | 19 |
| 510 160 102 | QuadraPaddle Signal/Mini Power or Mini Coaxial Module, Receiver, iCon, 100/8 Position | 25 |
| 510 160 103 | TriPaddle Signal/Mini Power or Mini Coaxial Module, Receiver, iCon, 64/8 Position | 27 |
| 510 160 104 | Mini Power or Mini Coaxial Module, Receiver, iCon, 24 Position | 21 |
| 510 160 105 | Signal Module, Receiver, QuadraPaddle, iCon, 160 Position, Fully Loaded with Twin Female Contacts | 19 |
| 510 160 106 | Micro Power or Micro Coaxial Module, Receiver, iCon, 40 Position | 22 |
| 510 160 107 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 100/15 Position, for Crimp Contacts | 26 |
| 510 160 108 | Signal Module, Receiver, TriPaddle, iCon, 96 Position | 20 |
| 510 160 109 | TriPaddle Signal/Twinaxial Module, Receiver, iCon, 40/4 Position | 30 |
| 510 160 110 | Thermocouple Module, Receiver, iCon, 96 Position | 24 |
| 510 160 111 | TriPaddle Signal / Micro Power or Micro Coaxial Module, Receiver, iCon, 24/30 Position | 28 |
| 510 160 112 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, Receiver, iCon, 100/15 Position, Loaded with Twin Female Signal | 26 |
| 510 160 114 | Coaxial Module, Receiver, iCon, 20 GHz or 75 Ohm HD, 18 Position..... | 23 |
| 510 160 115 | TriPaddle Signal / 20GHz Coaxial Module, Receiver, iCon, 64/8 Position | 29 |
| 510 161 101 | Signal Module, ITA, QuadraPaddle, iCon, 160 Position | 19 |
| 510 161 102 | QuadraPaddle Signal/Mini Power or Mini Coaxial Module, ITA, iCon, 100/8 Position | 25 |
| 510 161 103 | TriPaddle Signal/Mini Power or Mini Coaxial Module, ITA, iCon, 64/8 Position | 27 |
| 510 161 104 | Mini Power or Mini Coaxial Module, ITA, iCon, 24 Position | 21 |
| 510 161 106 | Micro Power or Micro Coaxial Module, ITA, iCon, 40 Position | 22 |
| 510 161 107 | QuadraPaddle Signal/Micro Power or Micro Coaxial Module, ITA, iCon, 100/15 Position | 26 |
| 510 161 108 | Signal Module, ITA, TriPaddle, iCon, 96 Position | 20 |
| 510 161 109 | TriPaddle Signal/Twinaxial Module, ITA, iCon, 40/4 Position | 30 |
| 510 161 110 | Thermocouple Module, ITA, iCon, 96 Position | 24 |
| 510 161 111 | TriPaddle Signal / Micro Power or Micro Coaxial Module, ITA, iCon, 24/30 Position | 28 |
| 510 161 114 | Coaxial Module, ITA, iCon, 20 GHz or 75 Ohm HD, 18 Position | 23 |
| 510 161 115 | TriPaddle Signal / 20GHz Coaxial Module, ITA, iCon, 64/8 Position..... | 29 |
| 610 102 109 | Coaxial Contact, Receiver, 20 GHz, SF142B, Crimp/Clamp | 46 |
| 610 102 110 | Coaxial Contact, ITA, 20 GHz, SF142B, Crimp/Clamp | 46 |
| 610 102 118 | Coaxial Contact, ITA, 20 GHz, T-Flex402, Solder (Only Available in Patchcords) | 46 |
| 610 102 119 | Coaxial Contact, Receiver, 20 GHz, T-Flex402, Solder (Only Available in Patchcords) | 46 |
| 610 102 132 | Coaxial Contact, ITA, 75 Ohm, SM59/U, 2GHz, Crimp | 45 |
| 610 102 133 | Coaxial Contact, Receiver, 75 Ohm, SM59/U, 2GHz, Crimp | 45 |
| 610 103 115 | Mini Coaxial Contact, ITA, RG 316 | 38 |
| 610 103 129 | Mini Coaxial Contact, ITA, Two 0.025" Square Posts, Wire Wrap | 38 |
| 610 103 130 | Mini Coaxial Contact, ITA, RG 178 | 38 |
| 610 103 136 | Mini Coaxial Contact, ITA, 24 AWG | 38 |
| 610 103 140 | Mini Coaxial Contact, ITA, Solder Sleeve, RG316 & RG178 | 39 |
| 610 103 150 | Mini Coaxial Contact, ITA, Two 0.025" Round Posts for PCB, 0.075" Spacing | 38 |
| 610 103 161 | Mini Coaxial Contact, ITA, 24 & 26 AWG Twisted Pair | 38 |
| 610 104 114 | Mini Coaxial Contact, Receiver, RG 316 | 38 |
| 610 104 140 | Mini Coaxial Contact, Receiver, Two 0.025" Square Posts, Wire Wrap | 38 |
| 610 104 141 | Mini Coaxial Contact, Receiver, RG 178 | 38 |
| 610 104 142 | Mini Coaxial Contact, Receiver, Solder Sleeve, RG316 & RG178 | 39 |
| 610 110 101 | Signal Contact, Receiver, TriPaddle, 5 Amp, 20-24 AWG, 30μ" Gold, Crimp..... | 34 |
| 610 110 104 | Signal Contact, Receiver, TriPaddle, 5 Amp, 0.025" Square Post for Wire Wrap, 30μ" Gold | 34 |
| 610 110 108 | Signal Contact, ITA, TriPaddle, 5 Amp, 20-24 AWG, 30μ" Gold, Crimp/Solder | 34 |

| Part # | Description | Page Number |
|-------------------|-------------------------------------------------------------------------------------------------------------|-------------|
| 610 110 113 | Signal Contact, ITA, TriPaddle, 5 Amp, 0.025" Square Post for Wire Wrap, 30μ" Gold..... | 34 |
| 610 110 128 | Signal Contact, Receiver, TriPaddle, 10 Amp, 14 AWG (max), 50μ" Gold, Crimp/Solder | 34 |
| 610 110 129 | Signal Contact, ITA, TriPaddle, 10 Amp, 14 AWG (max) 30μ" Gold, Crimp/Solder | 34 |
| 610 110 167 | Signal Contact, Receiver, TriPaddle, 5 Amp, 26-28 AWG, 30μ" Gold, Crimp/Solder | 34 |
| 610 110 169 | Signal Contact, ITA, TriPaddle, 5 Amp, 26-28 AWG, 30μ" Gold, Crimp/Solder | 34 |
| 610 113 131 | Thermocouple Contact, Receiver, Chromel | 48 |
| 610 113 132 | Thermocouple Contact, Receiver, Alumel | 48 |
| 610 113 133 | Thermocouple Contact, ITA, Chromel | 48 |
| 610 113 134 | Thermocouple Contact, ITA, Alumel | 48 |
| 610 113 144 | Twinaxial Contact, Receiver | 47 |
| 610 113 145 | Twinaxial Contact, ITA | 47 |
| 610 115 124 | Mini Power Contact, ITA, 8 AWG (max), 50μ" Gold, Solder | 37 |
| 610 115 125 | Mini Power Contact, ITA, 8 AWG (max), 30μ" Gold, Solder | 37 |
| 610 116 112 | Mini Power Contact, Receiver, 8 AWG (max), 50μ" Gold, Solder | 37 |
| 610 131 108 | Mini Pneumatic Contact, Receiver, Hose Barb, 1/8" (4.0mm) ID, Fits Mini Coaxial or Mini Power Modules | 40 |
| 610 132 106 | Mini Pneumatic Contact, ITA, Hose Barb, 1/8" (4.0mm) ID, Fits Mini Coaxial or Mini Power Modules | 40 |
| 610 138 100 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Twin Female - Replacement Contact | 31 |
| 610 138 109 | Signal Contact, ITA, QuadraPaddle, 3 Amp, 22-24 AWG, Crimp/Solder | 31 |
| 610 138 111 | Signal Contact, ITA, QuadraPaddle, 3 Amp, Press Fit Wire Wrap | 31 |
| 610 138 112 | Signal Contact, ITA, QuadraPaddle, 3 Amp, 26-28 AWG, Crimp/Solder | 31 |
| 610 138 115 | Signal Contact, ITA, QuadraPaddle, 3 Amp, Twin Male, Round Post | 31 |
| 610 138 116 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, 22-28 AWG, Crimp | 31 |
| 610 138 117 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Male Adapter, 0.025" Round Post | 31 |
| 610 138 118 | Signal Contact, Receiver, QuadraPaddle, 3 Amp, Male Adapter, 0.025" Square Posts, Wire Wrap | 31 |
| 610 140 101 | Micro Coaxial Contact, Receiver, RG 316, Crimp | 43 |
| 610 140 102 | Micro Coaxial Contact, Receiver, RG 178, Crimp | 43 |
| 610 140 103 | Micro Coaxial Contact, Receiver, RG 179, Crimp | 43 |
| 610 141 101 | Micro Coaxial Contact, ITA, RG 316, Crimp | 43 |
| 610 141 102 | Micro Coaxial Contact, ITA, RG 178, Crimp | 43 |
| 610 141 103 | Micro Coaxial Contact, ITA, RG 179, Crimp | 43 |
| 610 142 101 | Micro Power Contact, Receiver, 12-14 AWG, Crimp | 42 |
| 610 142 102 | Micro Power Contact, Receiver, PCB Mount | 42 |
| 610 143 101 | Micro Power Contact, ITA, 12-14 AWG, Crimp | 42 |
| 7-101 914 000-036 | Signal Patchcord, ITA, TriPaddle, 10 Amp, 36", 14 AWG, Single Ended | 35 |
| 7-101 914 000-072 | Signal Patchcord, ITA, TriPaddle, 10 Amp, 72", 14 AWG, Single Ended | 35 |
| 7-101 914 101-006 | Signal Patchcord, ITA, TriPaddle, 10 Amp, 6", 14 AWG, Double Ended Jumpers | 35 |
| 7-102 914 000-036 | Signal Patchcord, Receiver, TriPaddle, 10 Amp, 36", 14 AWG, Single Ended | 35 |
| 7-102 914 000-072 | Signal Patchcord, Receiver, TriPaddle, 10 Amp, 72", 14 AWG, Single Ended | 35 |
| 7-103 422 000-036 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 36", 22 AWG Twisted Pair, Single Ended | 35 |
| 7-103 422 000-072 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 72", 22 AWG Twisted Pair, Single Ended | 35 |
| 7-103 422 103-006 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 6", 22 AWG Twisted Pair, Double Ended Jumpers | 35 |
| 7-103 424 000-036 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 36", 24 AWG Twisted Pair, Single Ended | 35 |
| 7-103 424 000-072 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 72", 24 AWG Twisted Pair, Single Ended | 35 |
| 7-103 424 103-006 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 6", 24 AWG Twisted Pair, Double Ended Jumpers | 35 |
| 7-103 922 000-036 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 36", 22 AWG, Single Ended | 35 |
| 7-103 922 000-072 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 72", 22 AWG, Single Ended | 35 |
| 7-103 922 103-006 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 6", 22 AWG, Double Ended Jumpers | 35 |
| 7-103 924 000-036 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 36", 24 AWG, Single Ended | 35 |
| 7-103 924 103-006 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 6", 24 AWG, Double Ended Jumpers | 35 |
| 7-103 924 000-072 | Signal Patchcord, ITA, TriPaddle, 5 Amp, 72", 24 AWG, Single Ended | 35 |
| 7-104 422 000-036 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 36", 22 AWG Twisted Pair, Single Ended | 35 |
| 7-104 422 000-072 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 72", 22 AWG Twisted Pair, Single Ended | 35 |
| 7-104 424 000-036 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 36", 24 AWG Twisted Pair, Single Ended | 35 |
| 7-104 424 000-072 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 72", 24 AWG Twisted Pair, Single Ended | 35 |
| 7-104 922 000-036 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 36", 22 AWG, Single Ended | 35 |
| 7-104 922 000-072 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 72", 22 AWG, Single Ended | 35 |
| 7-104 924 000-036 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 36", 24 AWG, Single Ended | 35 |
| 7-104 924 000-072 | Signal Patchcord, Receiver, TriPaddle, 5 Amp, 72", 24 AWG, Single Ended | 35 |
| 7-121 422 000-036 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 36", 22 AWG Twisted Pair, Single Ended | 32 |
| 7-121 422 000-072 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 72", 22 AWG Twisted Pair, Single Ended | 32 |
| 7-121 422 121-006 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 6", 22 AWG Twisted Pair, Double Ended Jumpers | 32 |
| 7-121 424 000-036 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 36", 24 AWG Twisted Pair, Single Ended | 32 |
| 7-121 424 000-072 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 72", 24 AWG Twisted Pair, Single Ended | 32 |
| 7-121 424 121-006 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 6", 24 AWG Twisted Pair, Double Ended Jumpers | 32 |
| 7-121 922 000-036 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 36", 22 AWG, Single Ended | 32 |
| 7-121 922 000-072 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 72", 22 AWG, Single Ended | 32 |
| 7-121 922 121-006 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 6", 22 AWG, Double Ended Jumpers | 32 |
| 7-121 924 000-036 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 36", 24 AWG, Single Ended | 32 |
| 7-121 924 000-072 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 72", 24 AWG, Single Ended | 32 |
| 7-121 924 121-006 | Signal Patchcord, ITA, QuadraPaddle, 3 Amp, 6", 24 AWG, Double Ended Jumpers | 32 |

| Part # | Description | Page Number |
|-------------------|----------------------------------------------------------------------------------------------------------------|-------------|
| 7-122 422 000-036 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 36", 22 AWG Twisted Pair, Single Ended | 32 |
| 7-122 422 000-072 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 72", 22 AWG Twisted Pair, Single Ended | 32 |
| 7-122 424 000-036 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 36", 24 AWG Twisted Pair, Single Ended | 32 |
| 7-122 424 000-072 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 72", 24 AWG Twisted Pair, Single Ended | 32 |
| 7-122 922 000-036 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 36", 22 AWG, Single Ended | 32 |
| 7-122 922 000-072 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 72", 22 AWG, Single Ended | 32 |
| 7-122 924 000-036 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 36", 24 AWG, Single Ended | 32 |
| 7-122 924 000-072 | Signal Patchcord, Receiver, QuadraPaddle, 3 Amp, 72", 24 AWG, Single Ended | 32 |
| 7-232 912 000-036 | Mini Power Patchcord, Receiver, 40 Amp, 36", 12 AWG, White Wire, Single Ended..... | 37 |
| 7-232 912 000-072 | Mini Power Patchcord, Receiver, 40 Amp, 72", 12 AWG, White Wire, Single Ended..... | 37 |
| 7-241 912 000-036 | Power Patchcord, ITA, Mini Power, 50u Gold, 36", 12 AWG White, Single Ended | 37 |
| 7-241 912 000-072 | Power Patchcord, ITA, Mini Power, 50u Gold, 72", 12 AWG White, Single Ended | 37 |
| 7-251 912 000-036 | Power Patchcord, ITA, Micro Power, 36", 12 AWG White, Single Ended..... | 42 |
| 7-251 912 000-072 | Power Patchcord, ITA, Micro Power, 72", 12 AWG White, Single Ended..... | 42 |
| 7-252 912 000-036 | Power Patchcord, Receiver, Micro Power, 36", 12 AWG White, Single Ended..... | 42 |
| 7-252 912 000-072 | Power Patchcord, Receiver, Micro Power, 72", 12 AWG White, Single Ended..... | 42 |
| 7-331 116 000-036 | Mini Coaxial Patchcord, ITA, 50 Ohm, 36", RG316, Single Ended | 38 |
| 7-331 144 000-036 | Coaxial Patchcord, ITA, Mini Coaxial, 36", SM405 Semflex Blue, Single Ended..... | 38 |
| 7-332 116 000-036 | Mini Coaxial Patchcord, Receiver, 50 Ohm, 36", RG316, Single Ended | 38 |
| 7-332 144 000-036 | Coaxial Patchcord, Receiver, Mini Coaxial, 36", SM405 Semflex Blue, Single Ended | 38 |
| 7-333 178 000-036 | Mini Coaxial Patchcord, ITA, 50 Ohm, 36", RG178, Single Ended | 38 |
| 7-334 178 000-036 | Mini Coaxial Patchcord, Receiver, 50 Ohm, 36", RG178, Single Ended | 38 |
| 7-335 924 000-036 | Mini Coaxial Patchcord, ITA, 50 Ohm, 36", 24, Single Ended | 38 |
| 7-338 116 000-036 | Mini Coaxial Solder Sleeve Patchcord, Receiver, 50 Ohm, 36", RG316, Single Ended..... | 39 |
| 7-338 116 000-072 | Mini Coaxial Solder Sleeve Patchcord, Receiver, 50 Ohm, 72", RG316, Single Ended..... | 39 |
| 7-338 144 000-036 | Coaxial Patchcord, Receiver, Mini Coaxial, Solder Sleeve, 36", SM405 Semflex Blue, Single Ended | 39 |
| 7-338 144 000-072 | Coaxial Patchcord, Receiver, Mini Coaxial, Solder Sleeve, 72", SM405 Semflex Blue, Single Ended | 39 |
| 7-338 178 000-036 | Mini Coaxial Solder Sleeve Patchcord, Receiver, 50 Ohm, 36", RG178, Single Ended..... | 39 |
| 7-338 178 000-072 | Mini Coaxial Solder Sleeve Patchcord, Receiver, 50 Ohm, 72", RG178, Single Ended..... | 39 |
| 7-339 116 000-036 | Mini Coaxial Solder Sleeve Patchcord, ITA, 50 Ohm, 36", RG316, Single Ended | 39 |
| 7-339 116 000-072 | Mini Coaxial Solder Sleeve Patchcord, ITA, 50 Ohm, 72", RG316, Single Ended | 39 |
| 7-339 144 000-036 | Coaxial Patchcord, ITA, Mini Coaxial, Solder Sleeve, 36", SM405 Semflex Blue, Single Ended..... | 39 |
| 7-339 144 000-072 | Coaxial Patchcord, ITA, Mini Coaxial, Solder Sleeve, 72", SM405 Semflex Blue, Single Ended | 39 |
| 7-339 178 000-036 | Mini Coaxial Solder Sleeve Patchcord, ITA, 50 Ohm, 36", RG178, Single Ended | 39 |
| 7-339 178 000-072 | Mini Coaxial Solder Sleeve Patchcord, ITA, 50 Ohm, 72", RG178, Single Ended | 39 |
| 7-361 116 000-036 | Coaxial Patchcord, ITA, Micro Coaxial, 36", RG316 Tan, Single Ended..... | 43 |
| 7-362 116 000-036 | Coaxial Patchcord, Receiver, Micro Coaxial, 36" RG316 Tan, Single Ended..... | 43 |
| 7-363 178 000-036 | Coaxial Patchcord, ITA, Micro Coaxial, 36", RG178BU Tan, Single Ended | 43 |
| 7-364 178 000-036 | Coaxial Patchcord, Receiver, Micro Coaxial, 36", RG178BU Tan, Single Ended | 43 |
| 7-365 179 000-036 | Coaxial Patchcord, ITA, Micro Coaxial, 36", RG179U Tan, Single Ended | 43 |
| 7-366 179 000-036 | Coaxial Patchcord, Receiver, Micro Coaxial, 36" RG179U Tan, Single Ended | 43 |
| 7-383 143 000-036 | Coaxial Patchcord, ITA, 75 Ohm, 36", SM59/U, Single Ended..... | 46 |
| 7-383 143 000-072 | Coaxial Patchcord, ITA, 75 Ohm, 72", SM59/U, Single Ended | 46 |
| 7-384 143 000-036 | 20 GHz Coaxial Patchcord, Receiver, 50 Ohm, 36", SF142B, Single Ended | 46 |
| 7-384 143 000-072 | 20 GHz Coaxial Patchcord, Receiver, 50 Ohm, 72", SF142B, Single Ended | 46 |
| 7-387 102 000-036 | 20 GHz Coaxial Patchcord, ITA, 50 Ohm, 36", TFlx 402, Single Ended | 46 |
| 7-387 102 000-072 | 20 GHz Coaxial Patchcord, ITA, 50 Ohm, 72", TFlx 402, Single Ended | 46 |
| 7-388 102 000-036 | 20 GHz Coaxial Patchcord, Receiver, 50 Ohm, 36", TFlx 402, Single Ended | 46 |
| 7-388 102 000-072 | 20 GHz Coaxial Patchcord, Receiver, 50 Ohm, 72", TFlx 402, Single Ended | 46 |
| 7-401 423 000-036 | Twinaxial Patchcord, ITA, 30 Amp, 36", 22 AWG Shielded Twisted Pair, Single Ended | 47 |
| 7-401 423 000-072 | Twinaxial Patchcord, ITA, 30 Amp, 72", 22 AWG Shielded Twisted Pair, Single Ended | 47 |
| 7-402 423 000-036 | Twinaxial Patchcord, Receiver, 30 Amp, 36", 22 AWG Shielded Twisted Pair, Single Ended..... | 47 |
| 7-402 423 000-072 | Twinaxial Patchcord, Receiver, 30 Amp, 72", 22 AWG Shielded Twisted Pair, Single Ended..... | 47 |
| 7-409 803 000-036 | Thermocouple Patchcord, ITA, 36", 20 AWG, Chromel and Alumel, Single Ended | 48 |
| 7-409 803 000-072 | Thermocouple Patchcord, ITA, 72", 20 AWG, Chromel and Alumel, Single Ended | 48 |
| 7-410 803 000-036 | Thermocouple Patchcord, Receiver, 36", 20 AWG, Chromel and Alumel, Single Ended | 48 |
| 7-410 803 000-072 | Thermocouple Patchcord, Receiver, 72", 20 AWG, Chromel and Alumel, Single Ended | 48 |
| 7-411 873 000-036 | Coaxial Patchcord, ITA, 75 Ohm, 36", SM59/U, Single Ended..... | 45 |
| 7-411 873 000-072 | Coaxial Patchcord, ITA, 75 Ohm, 72", SM59/U, Single Ended | 45 |
| 7-412 873 000-036 | Coaxial Patchcord, Receiver, 75 Ohm, 36", SM59/U, Single Ended | 45 |
| 7-412 873 000-072 | Coaxial Patchcord, Receiver, 75 Ohm, 72", SM59/U, Single Ended | 45 |
| 910 101 102 | Tool, Crimp, 10 Amp TriPaddle, Thermocouple and Micro Power Contacts, Receiver and ITA, Locator Required | 36, 44, 48 |
| 910 101 103 | Tool, Crimp, QuadraPaddle and TriPaddle Contacts, Locator Required | 33, 36 |
| 910 101 115 | Tool, Crimp, Coaxial Contacts | 41 |
| 910 101 118 | Tool, Crimp, Coaxial Contacts, ITA, 24 AWG Wire | 41 |
| 910 101 125 | Tool, Crimp, QuadraPaddle, Receiver | 33 |
| 910 101 131 | Tool, Crimp, Micro Coaxial RG178, Receiver and ITA | 44 |
| 910 101 132 | Tool, Crimp, Micro Coaxial, RG179 & RG316, Receiver and ITA | 44 |
| 910 104 107 | Tool, Locator, TriPaddle ITA (610 110 108 and 610 110 169) | 36 |
| 910 104 116 | Tool, Locator, TriPaddle, Receiver | 36 |

| Part # | Description | Page Number |
|-------------|--------------------------------------------------------------------------------------------------------------|-------------|
| 910 104 118 | Tool, Locator, TriPaddle, ITA | 36 |
| 910 104 127 | Tool, Locator, TriPaddle Receiver (610 110 101 and 610 110 167) | 36 |
| 910 104 128 | Tool, Locator, Coaxial Contacts, 24 AWG Wire | 41 |
| 910 104 134 | Tool, Locator, Thermocouple, Receiver | 48 |
| 910 104 135 | Tool, Locator, Thermocouple, ITA | 48 |
| 910 104 139 | Tool, Hex Crimp for Outer Shield, 75 Ohm Coaxial Contacts, Receiver and ITA | 45 |
| 910 104 140 | Tool, Locator, QuadraPaddle, ITA | 33 |
| 910 104 144 | Tool, Locator, Micro Power, ITA | 44 |
| 910 104 145 | Tool, Locator, Micro Power, Receiver | 44 |
| 910 110 102 | Tool, Extraction, TriPaddle and Thermocouple, Receiver and ITA | 36, 48 |
| 910 110 111 | Tool, Extraction, QuadraPaddle, ITA | 33 |
| 910 110 112 | Tool, Extraction, QuadraPaddle, Receiver | 33 |
| 910 112 104 | Tool, Extraction, Mini Power/Mini Coaxial Contacts, Receiver and ITA | 40, 41 |
| 910 112 117 | Tool, Extraction, 75 Ohm and 20 GHz Coaxial Contacts, Receiver and ITA | 45 |
| 910 112 123 | Tool, Extraction, Micro Power/Micro Coaxial Contacts | 44 |
| 910 121 119 | Tool, Center Conductor Forming, Mini Coaxial, Receiver (used before assembly) | 41 |
| 910 121 126 | Tool, Outer Shield Conductor Forming (ITA-forms or closes shield) | 41 |
| 910 121 131 | Tool, Weight Gage Kit, Mini Coaxial, Receiver | 41 |
| 910 121 142 | Tool, Outer Shield Conductor Expanding, Mini Coaxial, ITA | 41 |
| 910 121 143 | Tool, Center Conductor Enlarging, Mini Coaxial, Receiver | 41 |
| 910 121 144 | Tool, Solder Kit, Mini Coaxial Contacts with Solder Sleeves (Includes Raychem Holding Fixture AD-1319) | 41 |
| 910 121 149 | Tool, Adapter for Raychem Holding Fixture (AD-1319-9) | 41 |
| 910 121 155 | Tool, Weight Gage Kit, Mini Coaxial, ITA | 41 |
| 910 121 156 | Tool, Inspection Depth Gage, Mini Coaxial, Receiver | 41 |
| 910 121 157 | Tool, Inspection Depth Gage, Mini Coaxial, ITA | 41 |
| 910 121 160 | Tool, Steinel Heat Gun with Nozzle – 110V | 41 |
| 910 121 167 | Tool, Steinel Heat Gun with Nozzle – 220V | 41 |
| 910 121 179 | Tool, Inspection Depth Gage, Micro Coaxial, Receiver | 44 |
| 910 121 180 | Tool, Inspection Depth Gage, Micro Coaxial, ITA | 44 |



Standard Units of Measurement

[mm]
inches

Tolerance: .xxx = ± .005
.xx = ± .010

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2/18/08

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